

# FLIGHT

*The*  
**AIRCRAFT  
ENGINEER  
&  
AIRSHIPS**

First Aeronautical Weekly in the World. Founded January, 1909.

Founder and Editor : STANLEY SPOONER

A Journal devoted to the Interests, Practice, and Progress of Aerial Locomotion and Transport

OFFICIAL ORGAN OF THE ROYAL AERO CLUB OF THE UNITED KINGDOM

No. 975. (No. 35. Vol. XIX.)

SEPTEMBER 1, 1927

Weekly, Price 6d.  
Post free, 7d.

## Flight

*The Aircraft Engineer and Airships*

Editorial Offices: 36, GREAT QUEEN STREET, KINGSWAY, W.C.2  
Telephone: Gerrard 1828. Telegrams: Truditur, Westcent, London.

Annual Subscription Rates, Post Free.

United Kingdom .. 30s. 4d. Abroad .. 33s. 0d.\*

\* Foreign subscriptions must be remitted in British currency.

### CONTENTS

	PAGE
Editorial Comment:	
Missed Opportunities .. .. .	603
British Records at Last .. .. .	603
Recognition of the Seaplane .. .. .	604
Convertible Aircraft .. .. .	604
Copenhagen Aero Show .. .. .	605
Zurich International Flying Meeting .. .. .	608
Private Flying .. .. .	617
Light 'Plane Clubs .. .. .	619
Ford Reliability Air Tour .. .. .	622
Airisms From the Four Winds .. .. .	624
Royal Air Force .. .. .	625
America's Big Flying Meet .. .. .	626
Personals .. .. .	626
Sidewinds .. .. .	626

### "FLIGHT" PHOTOGRAPHS.

To those desirous of obtaining copies of "Flight" Photographs, these can be supplied, enlarged or otherwise, upon application to Photo. Department, 36, Great Queen Street, W.C.2

### DIARY OF FORTHCOMING EVENTS

Club Secretaries and others desirous of announcing the dates of important fixtures are invited to send particulars for inclusion in this list:—

<b>1927</b>	
Aug. 20—	
Sept. 2 ....	International Aero Exhibition, Copenhagen.
Sept. 4 ....	Flying Meeting, Kastrup Aerodrome, Copenhagen.
Sept. 5 ....	Gordon-Bennett Balloon Race, Detroit, U.S.A.
Sept. 24 ....	Newcastle-upon-Tyne Aero Club Flying Meeting.
Sept. 24 ....	Merseyside Air Pageant, Hooton Park, Lancs.
Sept. 25 ....	Schneider Trophy Race at Venice.
Sept. 30 ....	Entries Close for Edward Busk Memorial Prize (R.Ae.S.)
Oct. 20 ....	Aero Golfing Soc. (Cellon Cup), Walton Heath.
Dec. 31 ....	Entries Close for R. 38 Memorial Prize (R.Ae.S.)
<b>1929</b>	
Oct. 31 ....	Guggenheim Safe - Aircraft Competition Closes

## EDITORIAL COMMENT.



It is no manner of use trying to disguise the fact. Great Britain has missed two excellent opportunities recently. One was the International Aviation Meeting at Zürich, and the other the International Aero Show at Copenhagen. Both events would have been worth our attention, but while individual efforts were made in the case of the Danish show, and one single private representation in the Switzerland event, both events were eminently matters for concerted action.

### Missed Opportunities

In her amusing and interesting article on the Zürich meeting, Mrs. Elliott-Lynn states that 1,000 machines were present. Even allowing for a slightly rosey-mild estimate of the numbers, there seems to be little doubt that the Swiss meeting drew a quite extraordinary gathering of aircraft, and the only British representative was Mrs. Elliott-Lynn's Avro "Avian" with "Cirrus" engine. At Copenhagen Great Britain is represented by but two aircraft and aero engine firms, and granting that even those two are largely representative of quality making up for British exhibits in quantity, we think few will deny that in the interests of British prestige a much larger number of British representatives would have been desirable.

We do not by any means underestimate the difficulties. The British aircraft industry is not, as a whole, doing over well at the moment, and it is known that the Treasury refused even a small grant towards expenses in connection with showing at Copenhagen. The Air Council did all it could be expected to do by sending the small fleet of flying boats carrying the Air Minister and his party to Scandinavia, and we are quite sure that the visit of these flying boats to Copenhagen and Norway and Sweden has had an excellent effect. But that is not sufficient. We are very much convinced that the British aircraft industry in its entirety would be well advised to display the initiative which is demanded in these modern days of keen competition. The rest of the world can probably as ill afford expenditure on propaganda as can the British industry,

but it does make a brave effort, not only by participating in shows and meetings, but by its individual efforts in connection with long-distance flights, records, etc. Shortly before the war Mr. Claude Grahame White had a pusher biplane upon the sides of the nacelle of which were painted in large letters the words "Wake up, England." To those who have eyes to see, the same admonition is written on every foreign machine which lands at Croydon after crossing the Atlantic, which puts up a show at an international meeting, which establishes a world's record, which is the object of inspection at a show. The rest of the world has been having fairly good innings at supplying aircraft. The time is just about ripe for Great Britain to step in and get her share of the world's orders. But the opportunity must be grasped firmly and with determination.



#### British Records at Last

In this connection due prominence should be given to three records recently established by a British machine with British engine. It is true that these records are "only" in the light 'plane class, but they do show that this country can, if it makes up its mind, produce aircraft capable of surpassing in performance anything hitherto accomplished by foreign machines of the same class. The world's speed record of 186.47 m.p.h., established by Capt. Hubert Broad on the de Havilland "Tiger Moth" with de Havilland engine is a performance, of which not only Capt. Broad and the de Havilland company may be justly proud, but is a demonstration of British aircraft which will help to increase the prestige of British aviation in general, to the benefit of the whole industry. That Capt. Broad should have been able, a few days later, to beat the altitude record of machines of this class by reaching an altitude (uncorrected) of more than 20,000 ft., is proof that the "Tiger Moth" is not a "freak" machine designed for speed and for nothing else. What makes the latter performance all the more creditable is that the carburettor setting was that used for the speed record, and thus gave too rich a mixture. Moreover, the propeller used was the same as that fitted in the speed record flight, and thus was obviously not the most suitable for climb and ceiling. There is little doubt that with the necessary changes made, the "Tiger Moth" will increase its height record to somewhere in the neighbourhood of the 30,000 ft. mark. As the new de Havilland engine certainly does not develop more than about 130 h.p., it will readily be realised that both the speed and altitude records are evidence of real progress.

The third outstanding performance was Hinkler's flight in his Avro "Avian" with "Cirrus" engine from London to Riga (1,200 miles) in 11 hours, non-stop. This also was a most meritorious flight.



#### Recognition of the Seaplane

FLIGHT has been jestingly and, we venture to think, affectionately referred to as "The Seaplane Paper." It is now many years ago that we commenced the campaign which has earned us this nickname, and ever since we have preached the gospel of the seaplane. We have had the satisfaction that of recent years Great Britain has devoted a great deal of attention to the development of seagoing aircraft, and evidence is not lacking that those responsible

for the future of British Empire aviation are now fully alive to the importance of marine aircraft. The new flying-boats such as the Supermarine "Southampton," the Blackburn "Iris," the Short "Singapore" and the Saunders "Valkyrie," to mention the four types which took part in the cruise to Scandinavia, are evidence of this realisation of the need for intensive and continuous research along these lines. We are unfeignedly pleased that the Secretary of State for Air, Sir Samuel Hoare, should have chosen to pay his visit to the Scandinavian countries by flying-boat, and we see in this act an expression of a policy. Already the flying-boat has been developed to the point where—from a commercial point of view—it is no longer inferior to the land 'plane of similar power in load-carrying capacity. Translated into military aviation this means as large a load of bombs, or as long a range, according to how the disposable load is arranged. And the development has really only just commenced. Even those who are not particularly in favour of the seaplane admit that a limit in useful size is not reached as quickly with the flying-boat as it is with the land 'plane, and consequently it is permissible to hope for and look forward to the advent of the real seagoing air cruiser.

Finally, a last encouraging sign of the times is that our great dailies, such as *The Times* and the *Daily Telegraph* have now come to share the views expressed in FLIGHT for a number of years, and are advocating intensive development of seagoing aircraft. Altogether we seem at last to be settling down to work seriously along the right lines.



#### Convertible Aircraft

Although this is an age of specialisation, and aviation follows the same law as other human activities, it is always dangerous to generalise. It has often been said, and we ourselves have expressed that view, that we have come to the parting of the ways where civil and military aircraft are concerned. As time goes on the two classes of aircraft will tend to diverge more and more, as each becomes designed expressly for some particular purpose. The early days of commercial aviation saw the modification of military aircraft into commercial aircraft of sorts. Gradually the two types have developed separately, until at the present day the two classes have but little in common. At one point only do the two come at all close together. There is still a good deal in common between the passenger or commercial machine, the troop carrier and the heavy bomber.

At the Copenhagen Aero Show is exhibited a Swedish-built Junkers three-engined monoplane designed to carry bombs and machine guns. On closer examination it is found that only the centre portion of the fuselage has been altered. Otherwise the machine is identical with the commercial version. That neither the resulting military machine nor the commercial type is necessarily the most ultra-efficient possible may be admitted, but a nation which has available 100 commercial machines which may be thus converted may be in a good deal better position than one which possesses but half a dozen ultra-efficient bombers which have to be put into quantity production on the outbreak of war. The 100 relatively inefficient converted machines may have decided the issue before the ultra-efficient machines have been built. The subject is one well worth pondering.

# THE COPENHAGEN AERO SHOW

BY THE TECHNICAL EDITOR

(Continued from page 593.)

In last week's issue the Danish and English exhibits at the Copenhagen Aero Show were dealt with, but owing to lack of space it was found impossible to include any information concerning the various foreign exhibits. These are dealt with in this week's issue, but in presenting the following notes to our readers we wish to point out that the writer left the show on Monday of last week, when a number of aircraft were still "incessantly expected"; consequently, it

the giant photograph in actual size of the Penhoët flying boat with five "Jupiter" engines has been included, and is displayed rather more prominently than was the case at the last Paris show.

Of actual machines there were at the time of our visit but two: a Morane-Saulnier school machine, type 137, with Salmson engine, and a Farman "Jabiru" with Farman engine. The following machines were expected when we



**AT THE COPENHAGEN AERO SHOW:** Three-quarter front view of the Junkers R.42 with three Junkers L.5 engines. This machine has been built by the Swedish Company A.B. Flygindustri, of Limhamn. Note the profusion of machine guns, and the gunners' turret under the machine.

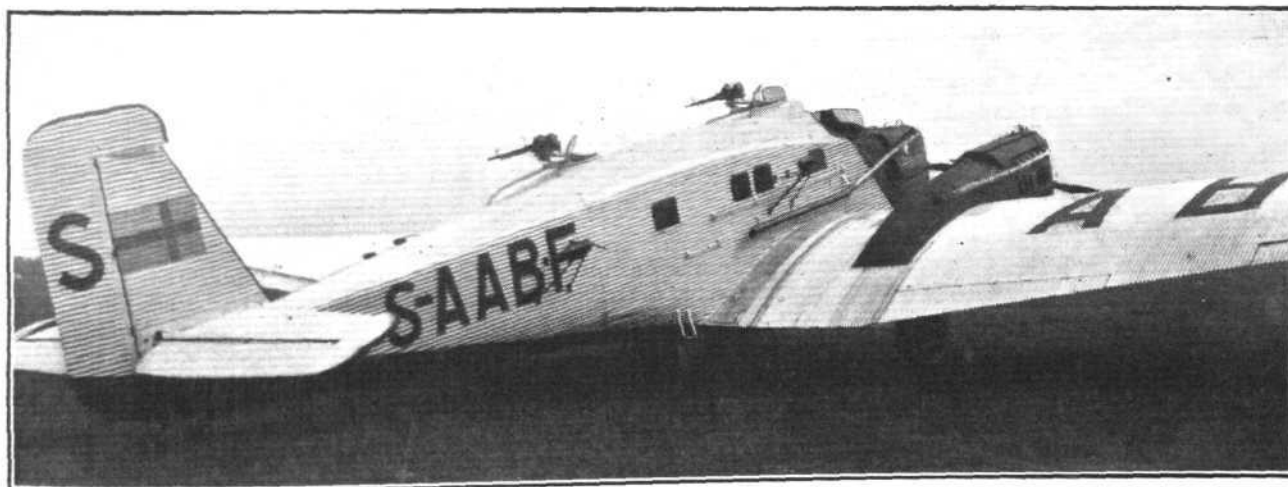
is possible, and even probable, that some injustice may be done to certain foreign firms by the absence of descriptive notes dealing with their products. This is neither the fault of the exhibitors concerned nor of ourselves, but merely one more result of the perfectly beastly weather which has done its best to spoil everything during the last few weeks.

## The French Show

The French section of the Copenhagen Aero Show is planned on generous lines, occupying as it does the whole

left Denmark, but whether they have arrived or not we do not know: Two Loire-Gourdou-Leseurre single-seater fighters with Renault and Gnome Rhone-Jupiter engines respectively; one Potez type 25 with 450 Lorraine-Dietrich engine; and one Liore and Olivier seaplane with Gnome Rhone-Jupiter engine.

The Farman "Jabiru," or "Ventre-a-terre," exhibited was of the single-engined type, with Farman engine, but as the gentleman in charge of the stand pointed out that it is about to be superseded by an improved type with dual



**AT THE COPENHAGEN AERO SHOW:** Three-quarter rear view of the Flygindustri Junkers R.42. The machine guns fitted are Danish Madsens. The machine is converted into a commercial aeroplane by changing the centre portion of the fuselage.

of one end of the Forum exhibition hall. Around the sides of this portion of the hall are arranged the series of tableaux depicting the mass production of the Breguet sesquiplane with which one is familiar from the French aero shows, as well as other scenes from French aviation activities. Even

controls, more luggage space, and greater comfort for the passengers, it will suffice here if we record that the machine was shown. The Morane-Saulnier school monoplanes are also well known to our readers, and the one exhibited showed no marked departures from previous models.

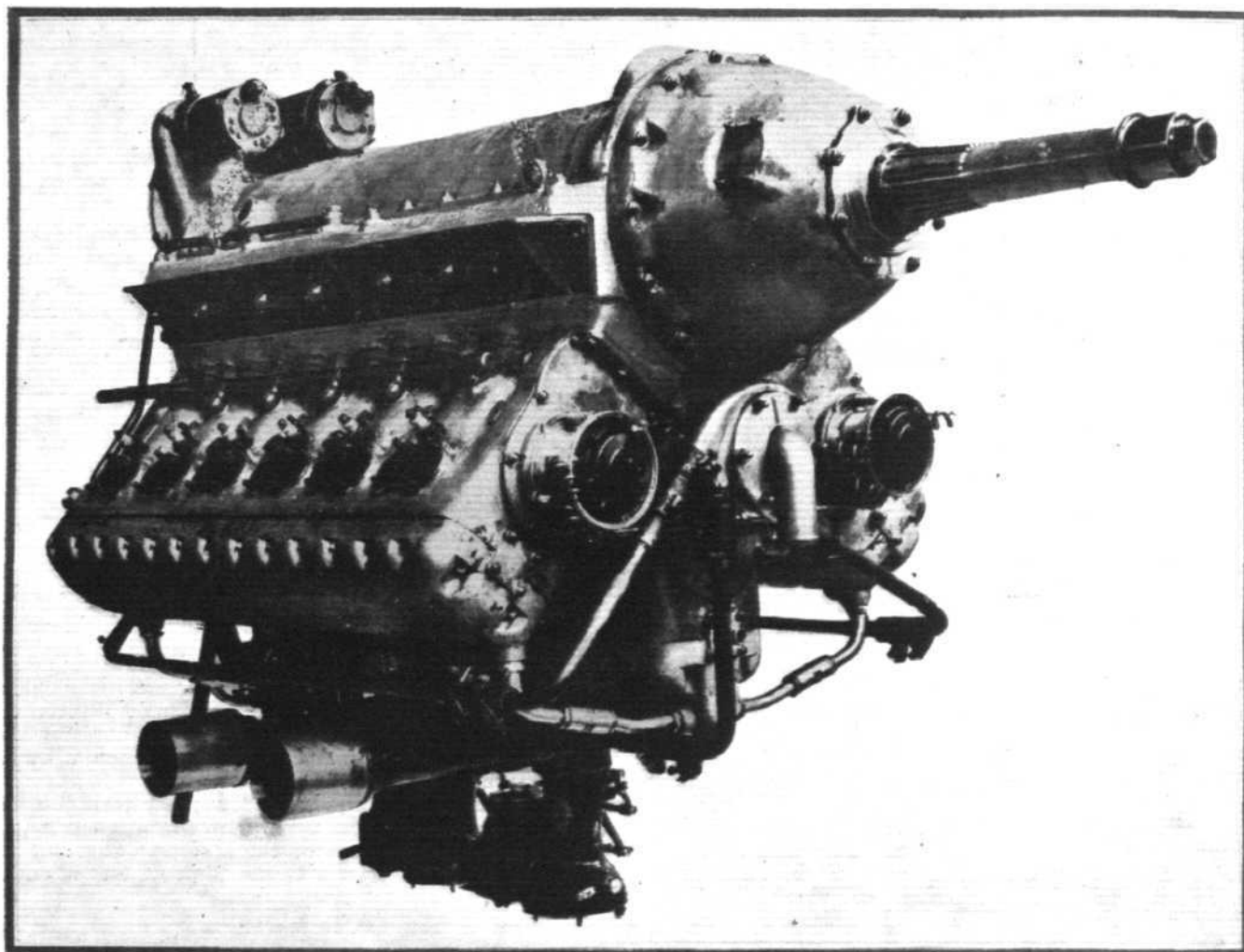


By far the most interesting exhibit on the French stand was the new Farman inverted engine, which made its first public appearance on this occasion. This engine is believed to mark a distinct step forward in the history of French aeronautics, and consequently it is intended to give a fairly full description of it here, although sufficient information was not available for us to be in a position to give all the details that might be of interest. Doubtless when the engine has been through its preliminary development period, the Farman firm will supply us with further information, which we shall then be pleased to place before our readers. In the meantime it might be pointed out that for most of the data published below we are indebted to an article reprinted from our excellent French contemporary *L'Aéronautique*, and handed to us on the Farman stand at Copenhagen.

considerable interest not only in France but throughout the aviation world.

The immediate result of this attempt is a new engine, the Farman type 18 W-1, which develops 550 h.p. at 2,800 r.p.m., and a propeller speed of 1,100 r.p.m., while giving a maximum output, at 3,400 r.p.m., of 730 h.p., for a total weight, in running order, and including all equipment, but without cooling water, of 421·8 kg. (927 lbs.).

By choosing the inverted type of engine, the Farman works believe to have achieved certain other advantages, such as large propeller clearance, allowing of a propeller of greater diameter, or conversely permitting a lower undercarriage. Also, it is claimed that the induction system is simplified, since shorter pipes can be used, while the low position of the carburettors permits of using direct gravity feed. The



**THE NEW FARMAN INVERTED ENGINE :** Of the 18-cylinder "broad arrow" type, this engine develops 700 h.p. at 3,200 r.p.m. for a total weight in flying order, but without water, of 421·8 kg. (927 lbs.). The Farman planet reduction gear permits of this high speed without sacrifice of propeller efficiency.

In designing their new engine the Farman engineers were encouraged to go for higher powers by increasing the speed rather than by adopting larger cylinder dimensions. It was thought that this course was justified by the success attained with the Farman planetary reduction gear, which has given excellent results on older types of Farman engines, and has won recognition abroad to the extent of being adopted, among others, by the Bavarian Motor Works for their new B.M.W. engines. Starting with the supposition that their reduction gear (supplied in several standardised ratios) is now such that reasonably good propeller efficiencies can be maintained even with relatively high engine speeds, the Farman works proceeded to develop their new inverted engine, holding the view that the advantages of increasing the power by speed and not by dimensions would justify such a course. Among these advantages are claimed the following: small and light moving parts, good induction arrangements, small bores and strokes, the possibility of using fairly high compression, moderate piston speeds, absence of vibration, and last, but not least, good reliability. Whether these advantages have been fully realised only the future can show, but at any rate the attempt is one of very

valves are very accessible while the engine is in a machine, since they can in most cases be reached without the use of ladders. When the top of the crank-case is removed, the crank-shaft is readily reached for inspection, etc., and a water header tank can be placed inside the engine cowling, thus avoiding one more projecting accessory. The objection usually raised against the inverted engine, that the sparking plugs of the "hanging" cylinders are apt to become oiled-up, is claimed already to have been solved in the case of the lower cylinders of a radial engine, so that there does not appear to be any reason why the inverted water-cooled should be any worse off in this respect.

The 18 cylinders of the new Farman engine are arranged in three banks of six each, as in previous "right way up" Farman engines, and have a bore of 110 mm. and a stroke of 125 mm., which compare with 130 mm. and 160 mm. respectively of the previous type of 500-h.p. engine. One result of the small cylinder capacity has been that a high compression ratio can be used (about 6 to 1). In spite of the high speed, of revolution, the piston speeds are no higher than those of the earlier 500-h.p. engine, i.e., about 11·7 metres (38·4 ft.) per second. The cylinder blocks are Alpacastings, with steel

sleeves and valve seatings. The crankshaft runs in seven bronze bearings, and the camshaft drives are unusual in that in place of either shaft or push-rod operation, the three camshafts are operated by trains of pinions. It is claimed that this arrangement, in addition to facility of adjustment, has the advantage of providing easy means of driving a number of engine accessories.

The great number of cylinders used, and the high speeds at which the engine is designed to run, would not, it is claimed, have made magneto ignition possible without considerable complication and probable loss of reliability, and consequently battery ignition has been provided. Two generators of 200 watts are mounted on top of the engine, one of which supplies the usual requirements for starting, lighting, etc., while the other is available for extra requirements, such as on large night bombers. The engine starter is electric, and weighs but 7.5 kg. (16½ lbs.). Its gearing in relation to the engine is at the ratio of 240 to 1, the starter being capable of running at 15,000 r.p.m.

Petrol supply is by two A.M. pumps and a Zenith carburettor for each bank of cylinders.

The Farman planet reduction gear gives a ratio of 2.46 to 1, giving a propeller speed of 1,100 r.p.m. at the normal engine speed.

Finally, the engine can be provided with a two-stage Rateau supercharger, mechanically driven, arranged to maintain the

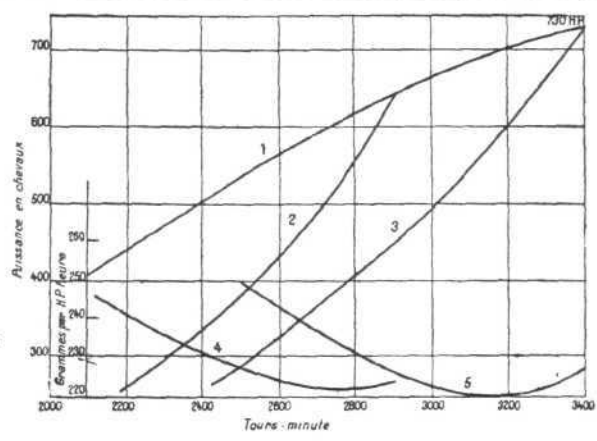
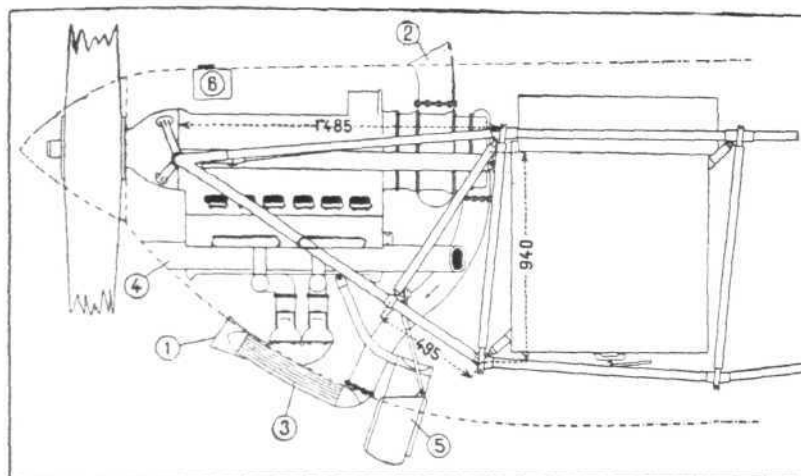
cluding engines by the Walter, Breitfeld Danek, and Skoda firms, the former showing a Walter engine and certain parts of a "Jupiter," and the latter some Czech-built Hispanos. For the rest, the stand was devoted to models, photographs, and various display advertising material.

### Germany

The German exhibit was disappointing in that no actual machines were shown, while of aero engines there were one or two Siemens radials and one of the new 500 h.p. B.M.W. water-cooled engines. The German aircraft constructors were represented mainly by models and photographs, which at the best can be but poor substitutes for the real thing, even if some of the models, such as that of a Dornier Wal, are beautifully made in metal. Certain aircraft parts, Duralumin floats, equipment and instruments completed the display on this stand, and certainly those who were not already familiar with the excellent work which Germany is doing in aviation could not possibly form any adequate idea from the exhibits staged in the Forum. The one redeeming feature of the German show was that it represented concerted action on the part of the German equivalent to our S.B.A.C.

### Holland

was represented by maps, photographs and propaganda material only, and one missed the usual well-staged Fokker stand very badly.



**THE NEW FARMAN INVERTED ENGINE:** On the left an installation diagram. 1. Valve enabling the engine to run with or without supercharger. 2. Air intake to supercharger. 3. Radiator. 4. Entry of air for exhaust cooling. 5. Water radiator. 6. Water tank. On the right, power and consumption curves. 1. Power curve at full throttle. 2. Power curve throttled to 2,900 r.p.m. 3. Power curve throttled to 3,400 r.p.m. 4 and 5. Petrol consumption curves corresponding to 2 and 3. The consumption is, of course, given in grammes per horse-power per hour.

nominal power up to 5,500 metres (18,000 ft.). At this altitude the engine develops 600 h.p., from which must be deducted about 90 h.p. for driving the supercharger, but to which can be added some 40 h.p. regained as a result of exhausting into rarefied air. The supercharger is driven at a gear ratio of 1 to 7, and an automatic, single-disc centrifugal clutch allows the pilot to throw the supercharger out of gear in 10 seconds without any special precautions on his part.

The accompanying installation diagram shows some of the dimensions of the Farman engine, but the main overall dimensions may be given here: Length o.a. without supercharger, 1.61 m. (5.28 ft.); with supercharger, 2.03 m. (6.66 ft.); height, 1.08 m. (3.55 ft.); width, 0.78 m. (2.56 ft.).

The weight of the engine bare is 318 kgs. (700 lbs.). The reduction gear weighs 40 kgs. (88 lbs.), the starter 7.5 kgs. (16.5 lbs.), the hub 12.5 kgs. (27.5 lbs.), the generators 12 kgs. (26.4 lbs.), the batteries 26 kgs. (55 lbs.), and the petrol pumps with their controls 5.8 kgs. (12.75 lbs.), making a total weight in running order, but without cooling water, of 421.8 kgs. (927 lbs.). On the normal power rating this corresponds to a specific engine weight of 1.685 lbs. per h.p. At the full throttle maximum power of 730 h.p. at 3,400 r.p.m. this corresponds to a weight of 1.27 lbs. per h.p.

### Belgium

A very small stand represents Belgian aeronautics, and contains mainly propaganda material of various sorts, maps, diagrams, photographs, etc.

### Czechoslovakia

has a large stand at the Copenhagen show, but at the time of our visit no actual aeroplane was exhibited, although the stand appeared unfinished and awaiting new arrivals. Workmen were busy putting aero engines into place, these in-

### Italy

had, apparently, "gone nap" on the lighter-than-air side, which was represented by a large number of scale models of airships of the E, M, V, Mr, P, N1, and N2 types. Some model maps in relief of Chioggia, Pompei and Rome were interesting, as were also a series of large framed photographs, but the show was not worthy of the effort which Italy has made in aviation during the last few years.

### Sweden

Well represented for its size was Sweden, whose aircraft stand was fully taken up by (and even overflowing into neighbouring stands) a huge Swedish-built Junkers monoplane, the type R.42, fitted with three Junkers L.5 engines. This machine was exhibited by the A.B. Flygindustri, whose works are at Limhamn, near Malmo, and who are the Swedish licensees of the Junkers works at Dessau. The machine had been flown over to Copenhagen.

The R.42 is a typical Junkers all-metal machine, with the usual corrugated Duralumin covering, multiple spar wing construction, etc. The machine carries an impressive number of bombs of various sizes, and is bristling with machine guns, of which there are two in a forward cockpit, two in a rear cockpit, and one in a gun turret projecting through the floor of the fuselage.

This gun turret is an ingenious affair, so arranged that the gunner can raise and lower it with himself seated inside, out of the draught, and can also rotate it so as to bring his gun to bear in any desired direction. The same turret can also be, and is, used for dropping bombs. What with the angle of fire open to the top gunners, and that of the turret gun when pointed aft, the Junkers R.42 has practically no blind spot.

(Concluded on page 626)

# THE ZURICH INTERNATIONAL FLYING MEETING

By SOPHIE C. ELIOTT-LYNN

[THE International Aviation Meeting, held at Zurich from August 12 to August 21, had brought together a very large number of aeroplanes from nearly all the European countries, and one cannot but regret that Great Britain was not represented in events other than the light 'plane competition, in which the Avro "Avian," piloted by Mrs. Elliott-Lynn, was rather ruled out owing to its petrol consumption, the regulations having, apparently, been framed with much lower-powered machines in view. For all that, the "Avian" impressed the visitors to the Dübendorf Aerodrome, and so much so that Mrs. Elliott-Lynn sold her machine, G-EBR8, to the directors of "Balair" (The Basle Air Transport Co.), who formed a club and commenced flying operations at once.

We have been fortunate in persuading Mrs. Elliott-Lynn to write her impressions of the Zurich Meeting for FLIGHT, and the following notes by her will, we think, be found quite unusually interesting, treating as they do the meeting, not from the point of view of a journalist, but from that of a competitor, a view which is too rarely given the prominence it

Fronval, Morane-Saulnier, 130 h.p. Clerget. This machine is especially strongly braced, and looks extraordinarily like a bird cage from a side view. Fronval specialises in non-stop rolling and stunting, having on a similar machine, some years ago, looped 962 times in succession. His colour-scheme is particularly noteworthy. The machine is a deep sky-blue, with the under surface of wings and fuselage centred in silver, the upper portion of both wings and fuselage being centred with vivid orange. This gives an extraordinarily vivid splash of colour in the sky in any weather. Fiesler, "Schwalbe," Siemens 110 h.p. engine, constructed specially for him by Raab-Katzenstein, of Kassel. I saw this machine before its completion at Kassel recently, and was very much impressed by the unusually stout workmanship in it. There is no dihedral, and it appears as controllable on its back as rightway up. On Wednesday morning, August 17, Fiesler put up a new officially observed world's record by flying upside down for 10 mins. 56½ secs. He flew mostly in wide turns, gaining height all the time. On turning back to

The Zurich Meeting: General view of the Dübendorf Aerodrome on "Children's Day."



deserves. Mrs. Elliott-Lynn has very sportingly refused to accept any payment for her article, and we feel that our readers should know this fact, in order that they may appreciate fully the extent to which they, no less than ourselves, are indebted to the famous lady owner-pilot.—Ed.]

## *The Zurich International Flying Meeting, August 17, 1927*

The Zurich International Flying Meeting has been organised on a more ambitious scale than probably any other individual meeting. Over a thousand machines have come from all corners of Europe to compete in the numerous events on the programme.

The greatest interest centres round the "Aerobatics" Competition, the circular mountain races for light and heavy machines coming a good second. It is surprising that, with the machines and the pilots we have in England, these competitions should have been almost entirely neglected by Great Britain, the only competing machine being an Avro "Avian," in the light 'plane class. The four favourites in the Aerobatic Class are, with their mounts, Udet, with his Udet Flamingo, a semi-light aeroplane with a weight of about 600 kilos., and a 110 h.p. Siemens radial engine. This machine is extensively used by private owners in Germany, and costs about £1,300. (Fraulein Thea Rasche recently took one to America with her.) Doret, Dewoitine, 300 h.p. engine.

normal position, he lost sight for a time, and almost lost consciousness. He landed with great difficulty, and in a semi-fainting condition. He was, however, up again later in the afternoon, doing half rolls, loops and Immelmans off his back.

One of his most effective stunts, I am told, is a double loop or 8, beginning with the inverted loop, into which he goes very much as do our Service "Moth" people in the "Double Bunt," but out of a very much steeper stall. He pulls the nose up till the machine is on the verge of a tail-slide before dropping down and under.

On Sunday the 14th, the first actual competitions took place, being of a national character, and confined to Swiss Service pilots. The National Championship in aerobatics was won by Oblt. Herzig on a Hanriot, whose performance was of a very finished character.

An interesting inter-squadron relay race followed, in which the first man off had to make a circuit and drop a message, which was picked up by the next pilot, who had to run to his machine. The last pilot had to land and run with the message to the judge. It was won by "Adieu Mimi" team. Teams consisted of machines of one type, all fast and all slow machines being segregated.

The most interesting competition of the day, however, was the obstacle landing race. Owing to the great number





The Zurich Meeting: Typical country near Zurich.

of high power cables and wires all over the lower portions of the country (water power is always used), forced landing becomes difficult. Pilots in this mountainous country are always taught to fly over the impossible landing grounds of the Alps and their foothills at such an altitude that low ground can be reached by a glide in case of trouble. Owing to the steep nature of the hills this is always possible, but the network of wires in the valleys presents a natural obstacle to the pilot.

The competition was a direct outcome of part of the Service training. Two wires, lightly marked with streamers, were stretched 30 metres apart, and both the same distance above the ground (10 metres). The pilot had to land under the first wire and over the second on a mark. The competition was won by Oblt. Borner on the popular Hanriot.

On Monday evening, the reception of the light aeroplanes took place. The Avro "Avian" arrived half an hour before "closing time" with Mrs. Lynn and Mr. Boyes on board. This machine, which is Mrs. Lynn's property, was taken over three weeks before, and had done over 120 hrs. when it reached Zurich, including the "Round the Aerodromes flight," a trip to Ireland, to Wales and Glasgow, as well as a journey to Poland last week. The machine had received no particular attention before coming to Switzerland, as it was merely intended to act there as a demonstration machine and carry a pair of interested spectators.

It had come out via Ostende and Cologne, and travelled down the Rhine. Numerous adventures had befallen it en route, including an enforced stay of 24 hours in Ostende while its triptyque was filled up, having been sent back to Croydon (intending private owners flying to the Continent please note)—a semi-forced landing for petrol on the side of a hill near Wiesbaden, and a very-much-suspected landing in French-occupied territory near Mentz.

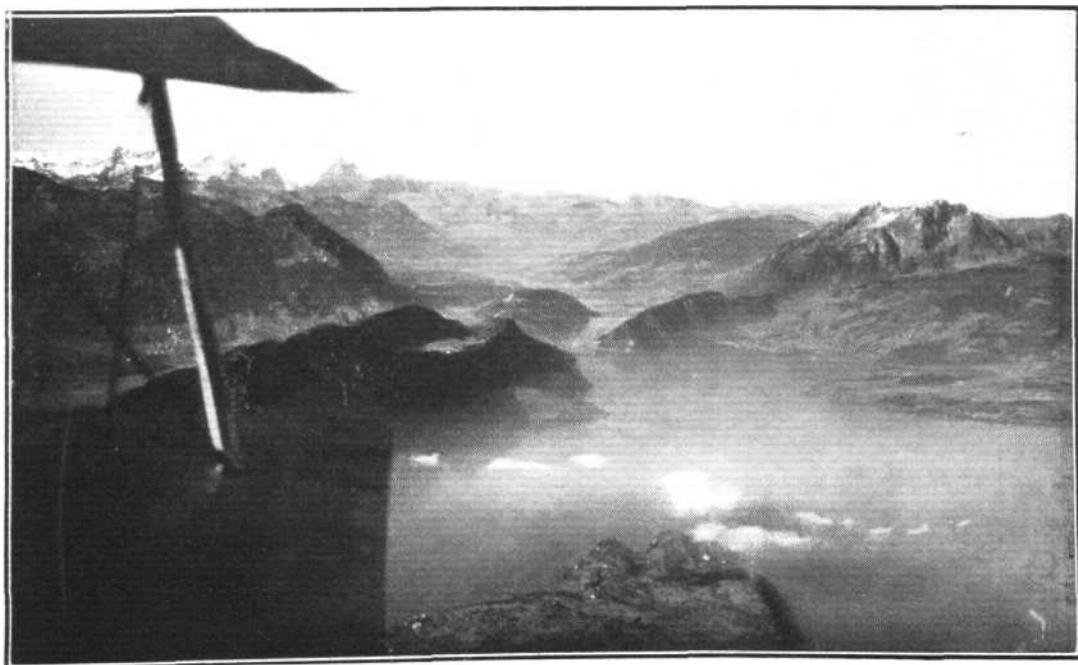
On the arrival of the "Avian," Mrs. Lynn reported to the Secretary that the "Alpha-Avian," which had been entered for the competition for her to fly, could not come, but that she had brought a similar machine with a "Cirrus II" engine. The Committee immediately informed her that as she had entered the Alpha "Avian," the change of engine did not matter, and G-EBRS could compete.

It was found that the machine was slightly too heavy, so with the help of Mr. Boyes—who worked like a nigger—and Imperial Airways' Mr. Parsons, the dual control, front seat, instruments, windcreens and every removable nut and bolt were taken out, and the weight brought down to the necessary 400 kilos.

There is a tax of 10 marks a kilo. on imported machines in Switzerland, which makes the very light machines such as the Daimler-Klemm, and the Caudron "Avionette" very much preferred by the prospective owner and flying club.

On this account too, the price of this machine received

The Zurich Meeting: Typical country a few miles out of Thun, over which competing machines had to fly.



much consideration in the formula for the competition, which ran as follows:—

V.P.C. where  $V = \text{Speed} = \frac{\text{Length of Circuit}}{\text{Time}}$

E

P = Useful weight carried, fuel included.

E = Fuel used on circuit.

C = Coefficient of points obtained under the following scheme:—

- (a) 15 points for technical qualities:  
5 for materials employed; 5 for general construction; 5 for comfort of pilot and passenger.

It will be seen from the formula that even if the "Avian" obtained a maximum of marks in everything else (which she did) except in (a), her consumption would knock her out, as the machine with the smallest consumption was bound to win. When this was pointed out to the officials after the competition, they appeared to be very surprised and informed us that that had not been their original intention.

One cannot speak too highly of the marvellous organisation of the whole meeting, on which the air staff and the civil authorities have been working for the *past year*. Every tiny detail and contretemps was provided for, and on every side every competitor was met with the most perfect courtesy

The Zurich Meeting: The Fieseler "Schwalbe" established a world's record for upside-down flying (10 mins. 56 secs.).



- (b) 25 points for landing, dismantling, passing through a hangar door opened to 3 metres, reassembling and starting engine: two Swiss helpers were provided by the organisation.

- (c) 15 points for length of start with full load.

- (d) 15 points for length of landing with full load.

- (e) 15 points for sale price of machine.

$$C = \frac{\text{points won} + 10M}{80} + 1$$

M = number of motors.

and consideration. Unlike the organisers of certain other light aeroplane competitions, the ambition of the officials was to keep every machine in to the end and to do all in their power to help every competitor—without any favouring—into first place.

One had the delightful feeling throughout the whole contest that there was no need to worry about anything. One's petrol and oil, helping mechanics, weather reports, maps, photographs of the aerodrome to be visited, and even transport came along when wanted *without being asked for*.

The points under C were to be competed for and obtained in a single day, viz., August 16. Four machines got through—the Daimler-Klemm, owned by the Zürich Flying Club; the



THE ZURICH MEETING: Three-quarter front view of the "Jupiter"-engined Junkers which won the Circuit of the Alps for commercial aeroplanes.





The Zurich Meeting : The glider shown in this photograph was repeatedly towed behind a Fieseler aeroplane and released, landing in front of the judges' stand. In background may be seen the Avro "Avian."

firm's Daimler-Klemm, piloted by Herr Lusser, which won the Belgian Light Aeroplane Competition earlier in the year; the Caudron "Avionette," a monoplane built on "Widgeon"

German) what one wanted done. The "Avionette" and the Klemms took over 15 mins. each, as the controls had to be unshipped and the wings taken clean off.

The Zurich Meeting : The Swiss team of Dewoitines.



lines, but weighing about 320 kilos. and fitted with a Salmson 40 h.p. engine. The "Avian" very easily won the first practical test—that of landing, dismantling, garaging, re-assembling, and starting—with 5 mins. 20 secs. This time could have been improved upon if one's own assistants had been permitted, but one had to explain to the Swiss assistants (in very bad

With full load the result of the next competition was as follows :—

	Take off in Metres.	Landing in Metres.
"Avian" .. ..	71	60
Caudron .. ..	149	51
Daimler .. ..	86	49

The "landing" was the run measured from the first point

The Zurich Meeting : The Italian team of Fiats.



The Zurich Meeting : M. Comte with his Comte machine made the fastest time in the international speed trials, but was disqualified for not passing between the posts on the finishing line.



of contact with the ground to the final position of the machine at rest.

In this competition the very slow landing speed of the Klemm (about 18 miles an hour) and the fact that M. Finat, who was piloting the Caudron, deliberately stalled his mount from about 6 ft., put the "Avian" into third place in the "Aterrissage," although it very easily won the "start," and indeed by so much that it won the combined start and take-off contest.

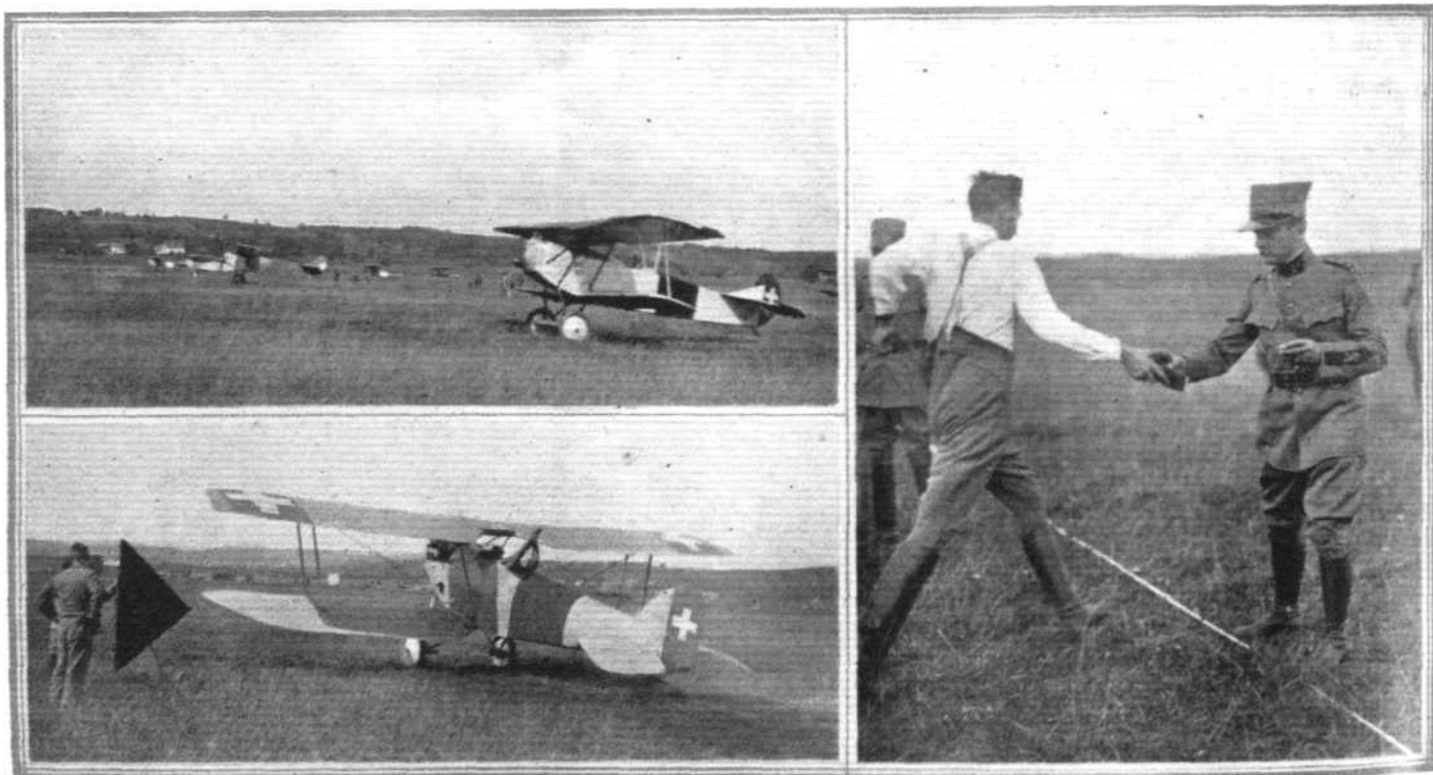
A banquet given by the F.A.I., which is meeting this week in Zurich, and to which most of the competitors were invited, closed the day. It was a happy inspiration on the part of the Swiss organisation to make these two great occasions on this year's aviation coincide.

As good weather was promised, it was decided to hold the speed contest the following day, and consequently a car was sent to the hotel of each competitor at 4.30, with an

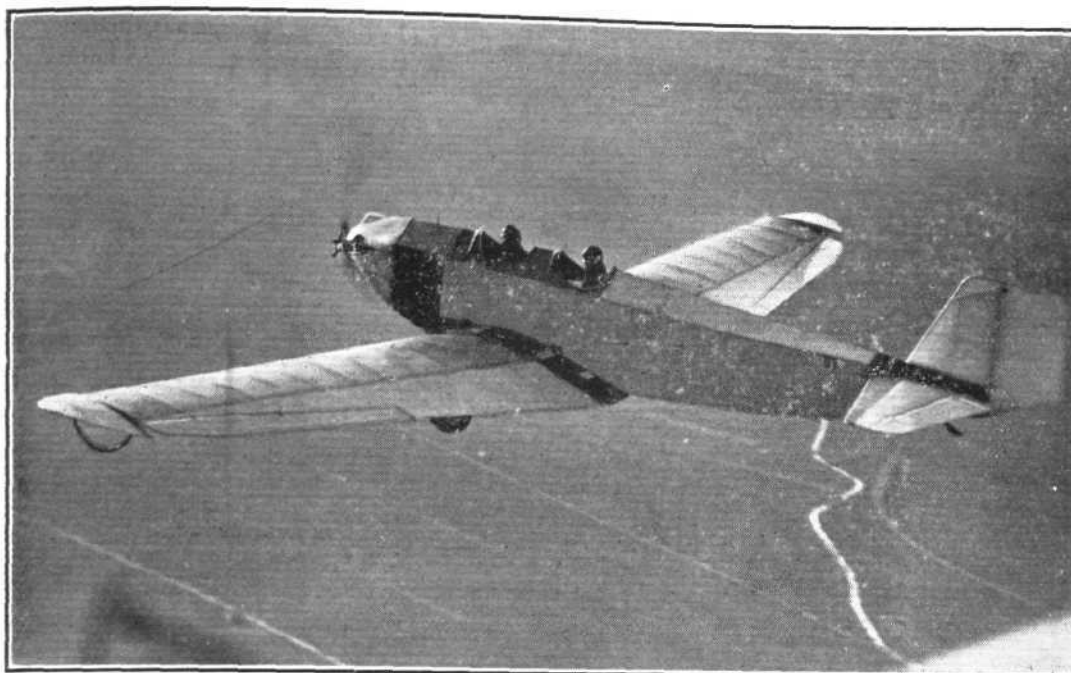
official who saw to it that pilots and mechanics were fed at the railway station if the hotel could not come up to scratch—another little example of the thoughtfulness and care of the organising committee.

On arrival at the aerodrome one found all the machines lined up to start, with tanks filled from one's own supplies of fuel and sealed. Weather reports from all stations *en route* and photographs of all landing places, with markings, were also given to each competitor. In spite of a week's constant bad weather, low cloud and rain, Wednesday morning was the most perfect one could imagine, and every peak of the snow-clad Alps on the horizon stood out clearly.

Herr Lusser was first away on the Daimler-Klemm, but returned in a few minutes with oil trouble. The Mobiloil he had in the Mercedes engine was giving trouble. We were fortunate in being able to lend him a supply of our Castrol R, on which he continued his flight after draining out the other.



THE ZURICH MEETING : Three incidents from the relay race. Above, the machines starting ; below, the observer getting into one of the machines (head first), and on the right, the winner handing his message to the Judge, Capt. Cartier



The Zurich Meeting: An aerial view of the little Klemm - Daimler monoplane, the lowest - powered machine at the meeting (20 h.p.).

The flight to St. Gallen, the first aerodrome, was over some very lovely mountain country not above 2,500 ft., and occupied 21-27 minutes (50 kms.). The aerodrome is a new one and lies south-west of the town. At both this and the other landing-places the finishing line was extraordinarily easy to find, as a group of officials and police were in all cases at either end, and not alone was the line of linen about 2 ft. wide, but arrows of the same material set at 50 m. distance directed one on to it.

One had to land short of the line and taxi across it, the time being counted from the moment one's wheels rolled over. One could remain any desired length of time at any landing place, as long as one completed the circuit in the day. A very wise provision in this mountainous country, where sudden squalls and changing weather make the meteorological reports very necessary.

Another interesting feature was that one's "ballast" might consist of any spares or tools one might require, with the stipulation that any repairs done had to be done with parts and tools carried scaled up in the machine. We therefore decided that to fly solo, carrying a large assortment of spares, would be best, and put in the machine as well as the usual "breakdown kit," a spare wheel, and a couple of cylinder heads complete, as well as a couple of gallons of oil in sealed tins. This is the first international competition that has ever allowed such a sensible arrangement.

The next leg of the course was over ground of about a similar height till one reached the valley of the Rhine, and was of length 127 km. In spite of the fact that the town of Basle, at its terminus, was presenting a Cup for the best time over this leg, I decided to risk losing this and fly at three-quarter throttle, as I was suspicious of valve trouble, and a forced landing in the desolate valleys of the higher hills would have put me completely out of the competition, as well as very much increasing one's consumption. The trip to Basle, however, took exactly 60 mins., and gave the Cup to the English machine.

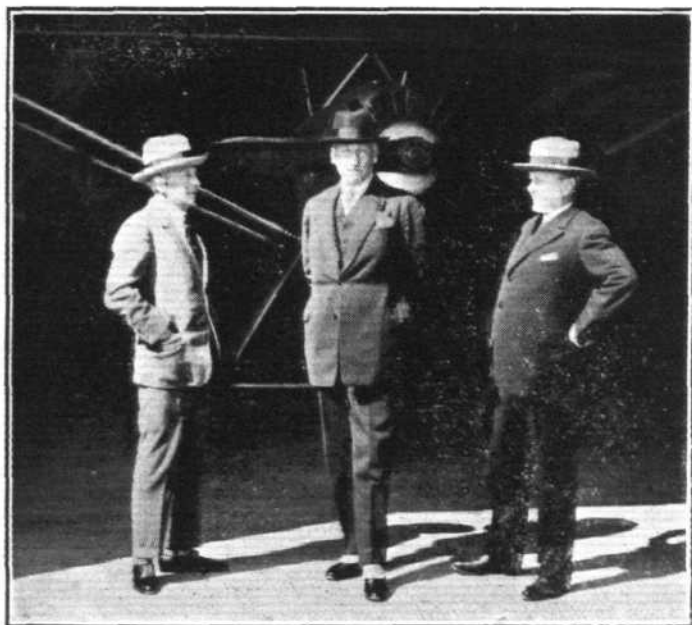
The officials at Basle had breakfast—another—waiting for the competitors, as well as weather reports from the top of the Jura Mountains. Here one was overtaken by a Zurich official, the starter as a matter of fact, who, having sent the last machine off, followed round on a 200 Hispano-engined D.H.3 to see that everyone was all right, a little act of kindness and courtesy to visiting strangers unaccustomed to mountain flying that was very much appreciated. I was interested to learn here that his times to St. Gallen and Basle were identical to the minute with mine, but sad to learn that the Zurich Club Daimler had had to forced-land outside St. Gallen.

The trip to Thun lay directly above the highest point of the Jura Mountains, but flying at 5,500 ft. one found that good landing grounds could at all times be reached by

The Zurich Meeting: The Avro "Avian" during the light aeroplane race, directly after winning the Basle Cup for greatest speed between St. Gallen and Basle. On the extreme right is Capt. Gsell, who did the course after the last competitor. Next to him is Major Koepke, the Commandant of the aerodrome.







**THE ZURICH MEETING :** This group includes Major Nabholz de Grabon, President of the meeting, the Comte de la Vaulx, President of the F.A.I., and Col. Nessner, President of the Swiss Aero Club.

gliding. The highest flat ridges were wrapped in cloud, but otherwise the whole course was remarkably clear.

Thun lies 89 km. South of Basle, and the Alps rise sheer above it on two sides in cliffs of some thousands of feet, surmounted by great white glistening peaks—naturally it is somewhat bumpy there, but extraordinarily beautiful. It would be an ideal holiday resort for an aviator, as the aerodrome lies in a curve of the town and one's climbing—one's winter sports—or one's boating in the summer, are actually less than a stone's throw away.

Another little example of detail organisation was shown here. One portion of the aerodrome is extremely ridgy, and unsafe for light aircraft landing. During the whole time of the competition about thirty mounted soldiers were kept constantly riding up and down and all over this bad portion to prevent machines from trying to use it!

The distance from Basle to Thun took 42-43 mins., as against 40 mins. by the guardian machine which came along later.

The last lap of the course was considerably the worst. It consisted of 105 km., the first 40 of which lay over serried

ridges of hills like knife edges. One had to climb very rapidly to clear the first of this series. A forced landing here would have been difficult, as the valleys were as knife edged, cut by vicious quick-running streams, as the ridges. The usual Swiss aviator over this course follows a large winding valley, which has a broad base, and is full of pleasant grazing fields, always full of mountain goats and sheep, and, as one official remarked here—"the sheep know good landing fields."

The "Cirrus" was feeling a little tired of such a long trip without attention by this time, at three-quarter throttle, but it never faltered, and completed the leg in 46 mins.

The prices given by the two other competing firms are interesting to note. The Caudron "Avionette" 70,000 French Francs. The Daimler Klemm, 8,500 marks.

The winner certainly deserved his win. After seeing our speed and performances—and after studying the low petrol consumption of the Klemm he nearly gave up in despair, but pluckily carried on.

Early in the competition M. Finat had come to us and offered us the loan of his mechanics if we required any assistance. M. Fronval had done the same. Had we not had Mr. Boyes the hardworking, and Mr. Parsons of Imperial Airways, both of whom turned out at 4.30 a.m. on Wednesday, and worked like Trojans, the machine would certainly not have been classed as highly as she was.

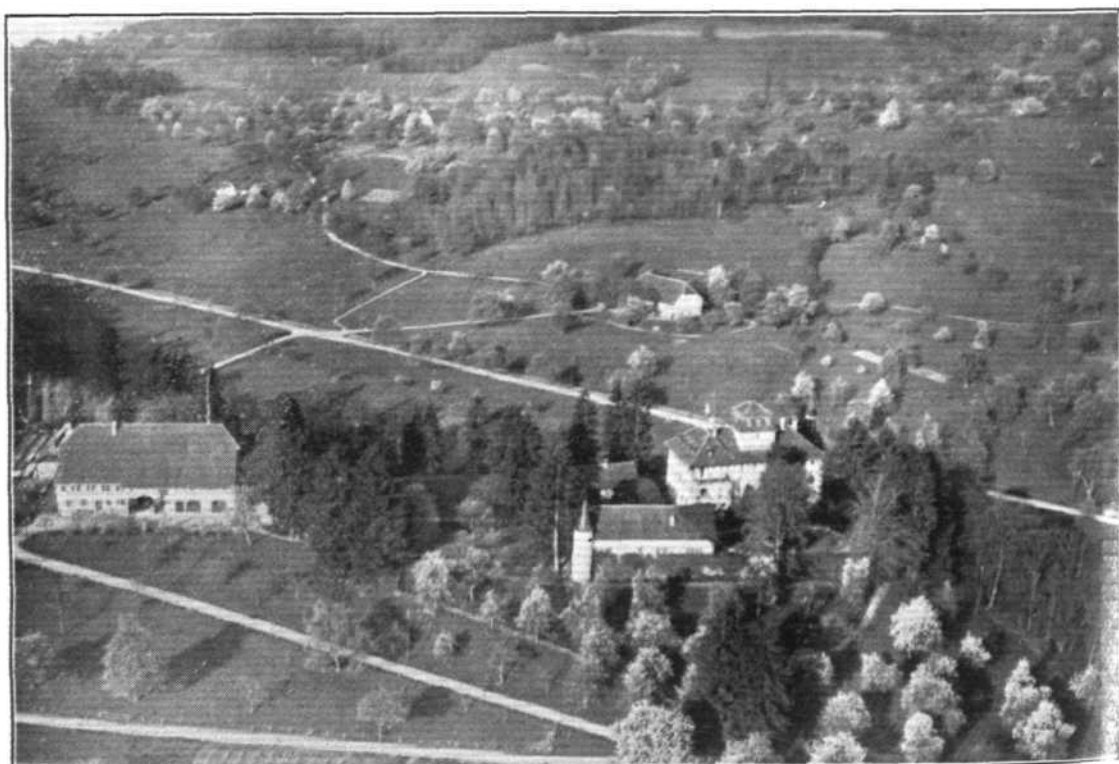
Final results of prizewinners :—

				Time.		Fuel.
				Hrs.	Mins.	Litres.
Finat	..	..	..	3	36.59	29.815
Lusser	..	..	..	5	45.27	24.93
Lynn	..	..	..	2	52.36	49.13
				PV/E.	C.	Total Marks.
Finat	..	..	..	750	1.695	1270
Lusser	..	..	..	479	1.898	900
Lynn	..	..	..	434	1.924	835

Wednesday afternoon was a very excellent innovation in flying—children's day—and there were upwards of 18,000 children on the aerodrome. The price of admission had been reduced to 6d., and for that every child got a free toy balloon to enter in the balloon race. The day was partly amusing, partly instructional. The amusing side for the children were these balloon races, balloon bursting competitions by Swiss machines, daylight fireworks, and a wonderful kind of "Archie" that released kites and figures attached to parachutes—horses and birds and "Mother Gamps"—which floated gently down. They also had balloon-jumping races. Two racers jumped too high and nearly got lost among the clouds, much to the children's delight!

On the instructive side the children were given short talks from very efficient loud speakers explaining the parts of aeroplanes—and why they fly—and, almost most interesting of all, a descriptive talk of how an aeroplane does things—

Switzerland's Only Private Owner: This photograph shows the home of Major Nabholz de Grabon, who took his ticket six years ago, although he was then 52 years of age. He first had a Fokker, and now owns and flies a Morane monoplane with Salmson engine.



with actual illustrations while the talk was going on, by Comte, in his own Comte machine at about 1,000 ft.

As far as I could see it was almost impossible to drag the 18,000 children away at 6 o'clock. Young Zurich, at any rate, will be air-minded when it grows up.

Friday, August 19

The morning was occupied by the eliminating speed tests. Competitors were sent off with three minutes' intervals and timed over the course. No results were announced.

Before lunch Mr. Clifford Harmon, President of the International League of Aviators, arrived to make arrangements for the presentation of the annual trophy to the Swiss aviator Mittelholzer for his African flight. Shortly after lunch Air Vice-Marsh Sir Sefton Branner arrived, having had a very quick down-wind passage with Mr. O. P. Jones, of Imperial Airways. About this time Mr. Watt arrived with "Avian II," G-EBQL, in time to see the start of the aerobatics competition semi-final. Much disappointment was felt that Udet had not been able to come to compete, as he had been considered one of the favourites.

It would be impossible to describe the stunting of all the competitors. There was a certain sameness and monotony about the perfection of the loops, rolls and spins, and combinations of these manœuvres, except in one or two cases.

The "order of action" of some of the best "aerobats" was as follows: *Hpt. Burkhard* (Swiss) on a *Nieuport Bebe*, Flew across the aerodrome at prescribed height of 400 m.

figures of eight. He then gained a little height and pulled up into a steep climb, and dived off a tail slide on to his back and then did some crazy flying. He then went into a normal loop, followed by an almost perfect inverted loop. He did not appear to do this under loop off a stall, but appeared to go into it at about 60 to 80 m.p.h. He then turned on to his back and flying level did a complete loop, coming out level at the end and half-rolled to normal. He half looped on to his back and came down thus in gliding turns with engine off to about 150 ft. from the ground, when he turned over and did a normal landing.

The finalists have not yet been announced.

The F.A.I. was today entertained at the Dornier works, and the majority of that body met at a dance given by the French Consul and his wife this evening.

Saturday, August 20

The two big races over the Alps, for the Coupe Chavez-Bider (commercial machines) and the Coupe Echard (military machines) were timed to start at 6 a.m. The weather, however, appeared threatening and the weather reports from Thun and Bellinzona were none too good at that hour. So that the first machine to start was the big new three-engined Junkers with three Bristol "Jupiters" made under licence on the Continent. It started at 9.10 a.m. This machine appeared extraordinarily manoeuvrable on the ground, although the regulations insisted on the pilot in every case flying in the race without mechanics or passengers. This was the only machine to finish in the race, the other Junkers.



The Zurich Meeting : The " Bird Cage " is the latest type of machine to be adopted by the Swiss Navy. It is unfortunate that the " inhabitants " are standing in front of, and hiding, the dog kennel !

on his back, rolled off, zoomed and upward rolled twice, rolled out of top of loop, Hoick turn, spun out of loop with two turns of spin, rolled upwards, half rolled on to back for 5 to 6 seconds twice. Flew on back across aerodrome. Inverted spin out of loop. Steep climb, tail slide, stall and spin. Loop, roll, sideslip on glide down either way. The competitors in the semi-final are required to stunt at will for 8 minutes.

*Fronval, Morane.*—A very finished performance. He was the only man to attain his height on a steady climb. Came across aerodrome in one very slow roll. Came out with a climbing turn, and ascended in narrow spiral, spun down to original rolling attitude, and crossed aerodrome in five loops, distance being perfectly judged, half-rolled out of last loop, returned across aerodrome in five fairly slow rolls, turned, half-rolled on to back and flew thus across aerodrome, half-rolled back to normal flight. Crossed aerodrome in five flick rolls alternately left and right. Crossed aerodrome in very slow roll. Half-roll on to back, little way on back, half-roll to normal. Four climbing rolls across aerodrome. Lost his height for landing by a very slow falling leaf. There was no moment during the performance in which there was nothing to watch!

*M. Doret* did similar stunts very perfectly with the addition of a loop from ground level into which he went with considerable speed and at the top of which he attained an altitude of about 700 to 800 ft., coming out of his loop again at ground level.

Herr Fiesler's performance on his "*Schwalbe*" was entirely different from the others. He began by a series of six fairly slow rolls across the aerodrome, and then rolled on to his back. In this position he circled in steep turns, doing three

with the Junkers motors, being forced down with engine trouble. It made the magnificent time over the long course of 4½ hrs.

The pilot told me that he had a very interesting trip, encountering thick clouds at 12,000 ft. both on the outward and return journeys to and from Milan, above which he had to get, but that he did not suffer very greatly from cold. He flew at 18,000 ft., in clear sunshine above the cloud layer for over half an hour.

In the Coupe Echard the first away was Capt. Bärtch, a Swiss on a Dewoitine, at 9.44. He was also the first home, arriving at about 2 p.m. Capt. Bärtch was the winner of this competition in 1922. He was then mounted on a Fokker D.7. His departure was followed by another Swiss, Lieut. Bornet, on a Fokker D.7 at 10.25, and his compatriot Capt. Wicheman at 10.43.

A Czechoslovak, Capt. Dwis, on an Avia B.21, with a 300 Hispano engine left at 11.19. It was interesting to hear that Mr. Bondy, the head of the Avia firm, Milos Bondy and Co., has almost ceased to build the light aeroplanes that won the French International Light Aeroplane Competitions last year, as they have received such large Government contracts that they can scarcely carry them through. The Czechoslovak team waited for each other at the first stopping place, and flying together, arrived in a bunch, almost in a formation at Dübendorf at 3 o'clock.

In the afternoon some beautiful exhibitions of low stunting were given by Fronval, Doret and other pilots, one particular manœuvre of Doret's creating much interest : diving from about 400 ft. he went into a very oblong loop from 2 to 3 ft. of the ground, reaching at its zenith the height he began to dive from, and coming out again on ground level.



Among other exhibitions were personal aerobatics from a trapeze slung under a little Daimler Klemm which flew at about 150 ft., and Mlle. Blainville, who wing-walked without holding on and stood on her head on the top plane.

The glider-towing "Schwalbe" also showed what it could do. The glider rose before the machine took off, and flew at a higher level than its leader. It was noticed that it made all its turns rather flatly. After circling the aerodrome several times it was released above the "Jury Box" and making a complete circuit landed within 20 yards of the same spot.

At 4.45 Mr. Clifford Harmon, founder and President of the International League of Aviators, presented Mr. Mittelholzer with the yearly trophy given to each country. He was supported by many prominent public men of Zürich and Berne, and the presentation was witnessed by a large crowd.

The two big races were not without incident. About noon the news came through that a machine had capsized on a bad portion of the aerodrome at Bellinzona, but all the officials were too busy trying to clear it away to tell us who it was. It later transpired to be the Czech, Captain Kniazekowsky. Two other machines forced landed, one at Montchaltdoy—after a long glide down from the hills, and the other, the Swiss type machine piloted by Capt. Cartier, a few hundred yards from the home aerodrome. Much sympathy was felt for him, as he had made excellent time.

At 2.30 the Swedish Junkers started. This machine had been observed during the past few days doing some beautiful slow stunting, and high hopes were entertained by its pilot, Lieut. Ernest O'Konor, for its success. Ten minutes later he returned with a missing engine, evidently magneto trouble, but, having it repaired, he left again in twenty minutes' time. Everyone regretted to learn at about 5 p.m. that his motor obstinately refused to start, at Bellinzona. He had no self-starter on it, and evidently the high altitude of that station had much to do with his difficulty.

The remainder of the competitors completed the speed course. Much regret was felt that the French Nieuports had, as we were informed, together with Capt Challe's Spad, lost their National Airworthiness certificates, and so could not compete.

Excellent time was made by M. Comte on his machine, but he was disqualified because he did not pass between the finishing posts.

The curious result, from a Swiss point of view, is that they have two pilots in the final, and only one machine for them to fly. One of their other machines of this type was forced-landed at Altdorf, and the other has developed some inexplicable engine fault. It is impossible for both of these finalists to compete, as they have to leave within 4 mins. of each other. So presumably the leader of the Swiss team will put his best man in.

In or out of the Competitions the finest effort of the day was put up by Lieut. Huëgger, the Swiss.

Starting at 6 p.m., he flew over to Bellinzona to see if it was fit for the competitors, but finding it masked in cloud he returned to Zurich without landing. He then flew to Thun for the same purpose, and over the mountains towards Bellinzona—having again to return to Zürich to say it was impossible. A little later he went again to Bellinzona and returned to say it was alright! Then he did his own competition over the Alpine course, and after he had finished went off again to Bellinzona to fetch another competitor who had forced-landed. This made in all nine crossings of the Alps on one day, which surely constitutes a record.



## Race for the Schneider Trophy

THE Italian State Railways are making special arrangements for visitors to Venice in connection with the above event on September 25, 1927. The reduced return railway fares are, approximately, first-class £14 16s.; and second-class £10 18s. Full particulars will be supplied by the Italian State Railways, 16, Waterloo Place, Regent Street, London, S.W.1, to whom application should be made direct.

The pilots of the British machines are to stay on the Lido and the officials of the Royal Aero Club and others will stay in Venice. Hotels will be charging rates appreciably lower than those obtaining during the high season. On April 1 a new daily train composed entirely of first-class Pullman cars will commence running from Basle to Milan, via St. Gothard and Lake Como, in connection with the 4 p.m. service from London, via Calais and Laon.

The time of arrival in Milan will be at 1.55 p.m. instead of 2.48 p.m. by the ordinary service, and this acceleration will enable passengers and registered baggage to connect with the

## Sunday, August 21

The National Competition of the Alpine Circuit was held in the morning in beautiful weather, all those who started finished.

The results were as follows:—

1. Oblt. Immenhauser:—  
Start 6.35.39<sup>4</sup>/<sub>10</sub>. Return 9.36.50<sup>4</sup>/<sub>5</sub>.  
Time 119 mins. 39<sup>2</sup>/<sub>5</sub> secs.
2. Lt. Hugg (5th to start):—  
Start 6.43.51<sup>4</sup>/<sub>5</sub>. Return 9.44.58<sup>4</sup>/<sub>5</sub>.  
Time 122 mins. 43<sup>3</sup>/<sub>5</sub> secs.
3. Oblt. Sute:—  
Left 6.32.01<sup>1</sup>/<sub>5</sub>. Return 9.29.20<sup>3</sup>/<sub>5</sub>.  
Time 124 mins. 39<sup>2</sup>/<sub>5</sub> secs.

An exhibition of shooting down an airship was held in the early afternoon, but as it couldn't be shot down, and the interior fuse refused to act, it was let loose, and was later (8.30 p.m.) seen passing over Friedrichshaven.

There were also during the afternoon exhibitions of aerobatics, both personal and by machines.

The finalists in the aerobatics competition were Bartsch, Fronval, Doret, Fiesler and Burkhard. The results were:—

Fronval 93.25.  
Fiesler 92.25.  
Doret 90.75.

The programmes were very much the same as on the semi-finals. Doret, however, added a beautiful low loop hands off, the stick being gripped between his knees, and he also did some steep gliding turns and his landing like this.

Fronval's addition to his earlier programme was some very pretty rolls—checked before completed—three-quarter way round with dives and glides in that position.

This final was followed by some nice close formation flying by the Dutch team, who finished up by taxiing back to their hangar in formation.

The speed finals were the last event, and the results were:—

Capt. Burkhard, Swiss 31 mins. 48<sup>3</sup>/<sub>5</sub> secs.  
Col. Ciccotter, Pole 32 " 09<sup>1</sup>/<sub>5</sub> "  
Col. Massucco, Italy 32 " 15<sup>2</sup>/<sub>5</sub> "

Following are the marks (c) of prizewinners in the light aeroplane competition:—

Subject.	Maximum Obtainable.	Caudron	Daimler	Avian.
Materials (wood and fabric)	2	2	2.5	2
Construction ..	2	2	1.8	2
Workmanship ..	2	2	2	2
Facility for repairs	1	1	0.8	1
Visibility:—				
Down ..	1	1	0.7	0.5
Forwards ..	0.5	0.4	0.5	0.3
Upwards ..	0.5	0.4	0.5	0.3
Accessibility of seating	1	0.6	0.9	0.7
Luggage accommodation	1	0.5	0.9	1
Comfort ..	1	0.9	0.7	0.9
Dismantling and re-erecting	25	9	19	25
Take-off ..	15	37 m. 1 <sup>3</sup> / <sub>5</sub> s.	16 m. 37 s.	5 m. 20 s
Landing ..	15	7.6	12.3	13.3
Price ..	10	12.9	13.1	12
		5.32	4.56	2.89

afternoon express trains from Milan to Lake Garda, Dolomites, Venice, Florence, Genoa and other important centres.

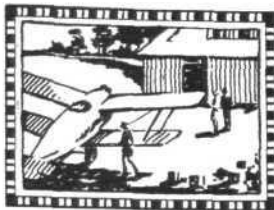
The British team who will compete for the Schneider Trophy left London on August 28. Air Vice-Marshal F. R. Scarlett, who is in command, did not travel then. The pilots who left were Sqd./Ldr. Slatter, F./Lt. Worsley, F./Lt. Webster, and F./O. Scholfield. F./Lt. Kinkead will go later.

## A Sporting Correction

FROM Mr. J. T. Hartson, of the Wright Aeronautical Corporation of Paterson, N.J., U.S.A., we have received the following communication:—"In your issue of July 28 you state that the Wright 'Simoon' engine was used in the 'Apache' plane flown by Lieut. C. C. Champion to a new world's seaplane altitude record. The engine used was a Pratt and Whitney 'Wasp.' In view of the circumstances surrounding the flight, I believe it is no more than fair to ask that you correct the information already published in an early issue. We will assure you of our sincere appreciation."



## PRIVATE



## FLYING

A Section of **FLIGHT** in the Interests of the Private Owner, Owner-Pilot, and Club Member

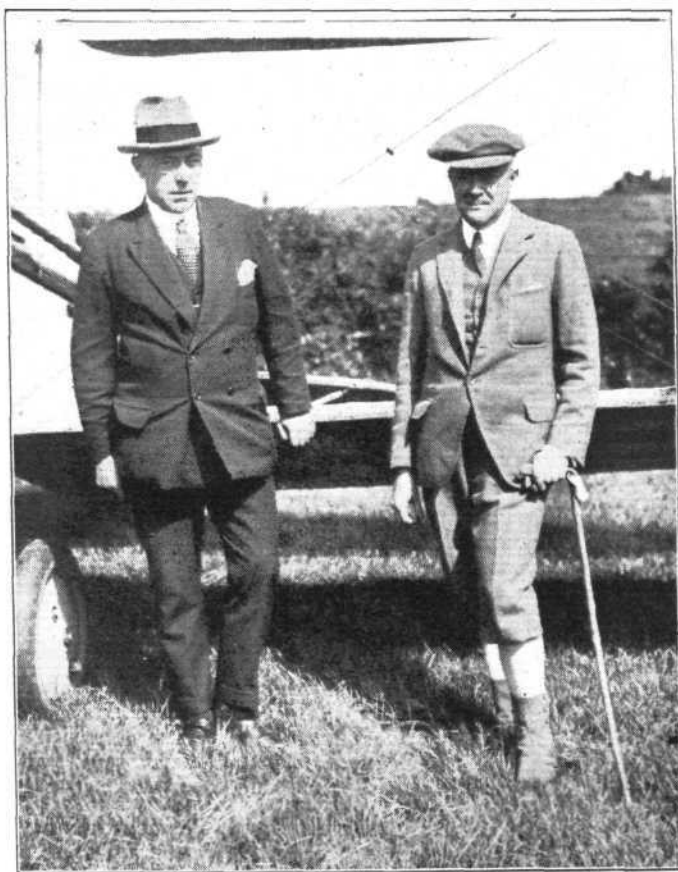
## TUNBRIDGE WELLS AIR PAGEANT

## An Episode in Two Parts

In a geographical sense the Air Pageant held at Tunbridge Wells last Saturday, August 27, was an episode in two parts. It began in a chosen field about a mile outside Tunbridge Wells, and finished at the civil emergency aerodrome at Penshurst. Incidentally, we experienced the unique and funny spectacle of the players and their interesting "props" being disintegrated from the wondering audience to the extent of a few miles. The weather conditions were extraordinarily good for our summer, but, unfortunately, the prevailing south-west wind made the chosen field quite hopeless for continued joy-riding. In length the field is quite suitable, but in width the main road is in the line of flight and there is a wide stretch of telegraph wires to clear or collide with. A forced landing in this direction would be totally unsatisfactory. The show began early in the afternoon with the spectacular arrival of a fleet of four De Havilland "Moths," bringing Capt. Broad, Mr. F. N. St. Barbe, Mr. Loader, Capt. White (of the D.H. School), Mr. Mills (a private owner), Capt. S. L. F. St. Barbe (instructor at the London Aeroplane Club), and Capt. "Jerry" Shaw—the latter flying the Shell "Moth."

## Official Welcome

They were welcomed by the Mayor, Alderman Charles Westbrook, Sir Robert Gower, M.P., and other officials of the proposed club. The crowd was singularly small and comprised a very large element of the juvenile class, who, however, had enough enthusiasm to fill the gap in adult interest. Tunbridge Wells seems a well-populated town, but either it knew nothing about its air meeting or else it did not want to know. In any case, we felt that a fleet of Moths and three fast Siskins from No. 56 (Fighter) Squadron at Biggin Hill, deserved a wider interest than they received. Following the arrival of the Moths the Mayor had a joy-ride, piloted by Capt. Broad. The ascent towards that crowded road and telegraph wires was watched with a suggestion of keen expectation, but nothing happened except an interesting steep climb. After an extended trip through the white clouds that were flitting across a rare blue sky, Capt. Broad landed and reported unfavourably. The field was then judged inadequate for a succession of flights with passengers in the prevailing direction towards the road. The Mayor, however, had thoroughly enjoyed his flight,



["FLIGHT" Photograph]

Tunbridge Wells Air Pageant : The Mayor, Alderman C. Westbrook (left) and Sir Robert Gower, M.P., standing by a Moth



["FLIGHT" Photograph]

TUNBRIDGE WELLS AIR PAGEANT : The fleet of five Moths lined up in the field and receiving a very close (too close, sometimes) inspection from the small crowd.

during which he had reached 3,000 ft. Soon after he descended another "Moth" appeared hovering over the field, and in came Mr. Alan Butler with a passenger. This brought the Moth fleet up to five.

### The Change of Venue

After some delay it was decided to make a wholesale move to the Penshurst aerodrome, much to the disappointment of the small crowd. In rapid succession each "Moth" took off without a passenger to the accompaniment of a terrific whoop of admiration and surprise from the juvenile gathering. In view of the manifest obstacles and the low "bumps," the ascents were certainly quite spectacular. Capt. White went off first, and as a consolation for the proposal to desert the audience he gave an interesting exhibition of stunting at a low altitude. Capt. Broad did likewise. Mr. Butler followed the family, then Capt. St. Barbe, and finally Capt. "Jerry" Shaw in his golden machine. And that was the last of the Moths. The other officials and the remainder of the De Havilland team went off by road. Meanwhile the abrupt blank left in the programme at the field naturally left everyone asking what they were to do. They were assured that three Siskins would entertain them shortly, and, sure enough, a will-o'-the-wisp trio with draught-board sides appeared to gambol ecstatically, as though mad with delight over such a fine day. They must have wondered at times whether they were playing to an empty house, and, in case the three clever pilots of this superb exhibition are still in doubt about the presence of an audience, we would assure them that everyone was located in one corner of the field. The three clever R.A.F. pilots were F/Lt. W. F. Dickson, F/O P. S. Blockey and F/O T. G. Pike.

### Siskin Trio's Clever Turn

The three Siskins executed all their stunts in excellent formation. They circled round wing-to-wing, banked, and looped. They came over the field fairly low in single file,

and rolled over in quick succession, seemingly making a synchronised porpoise movement in the direction of flight. At a short distance away they described with perfect symmetry the artistic manoeuvre which described the shape of three ostrich feathers. The leading machine shot up and looped, and simultaneously the wing machines shot up and outward and completed the curled tops with their loops. It was very impressive, and the intended design was patent even to a novice. A fascination peculiar to formation flying is the apparent repeated collisions of the machines. The wings seem to get hopelessly interlocked.

### What Happened at Penshurst

To turn to the other part of this strange, disconnected air pageant, about forty enthusiasts of the club were given joy-rides at Penshurst aerodrome, including Sir Robert Gower, M.P., the president. Everyone here was very happy with their more active part of the meeting, and so they ought to have been. They hadn't their toys taken away. There was no doubt about their welcome to the De Havilland fleet and their keen interest and approval of the Moths. Sir Robert Gower and the Mayor are leading the way to developing an air interest amongst the population, and it seems quite likely that Tunbridge Wells will soon join the growing list of active clubs. They have rented part use of Penshurst Aerodrome and, we understand, a field near Tunbridge Wells, too. The potential membership is already about ninety.

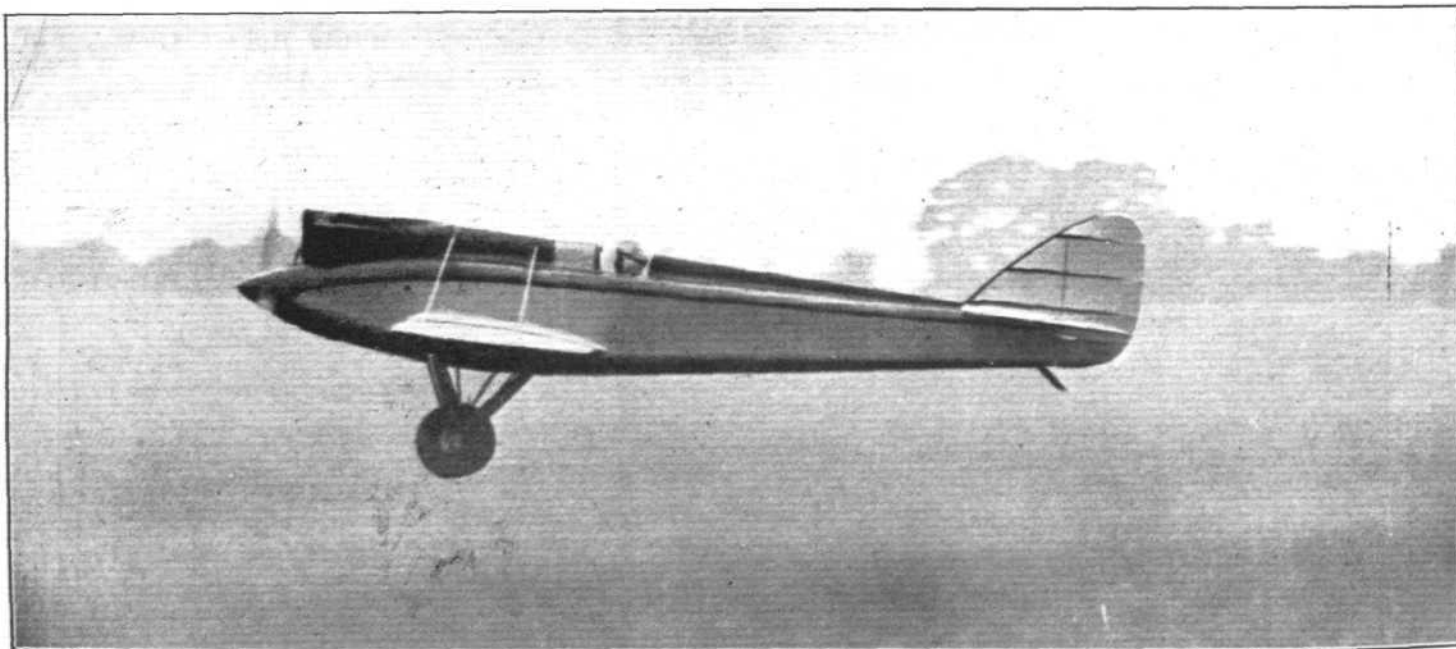
Late in the afternoon the Moths left for Stag Lane, stopping at Croydon *en route*, as they did on their way down. Mr. Mills, who brought his "Moth" G-EBPS down in company with Capt. S. L. F. St. Barbe, is taking it to New Zealand towards the end of the summer, but not by air. His machine will be the first light aeroplane in that country, and probably the first civil machine. He is going to be the "Moth" distributor for New Zealand, and he predicts a wide use for the light aeroplane.

## THE "TIGER MOTH" CREATES A SPEED RECORD

### Captain Broad's Fine Flight

To fully grasp the phenomenon of great speed it is nearly always necessary to have a comparison. The speed of the "Tiger Moth" is very impressive when it is flying alone, but at Stag Lane, on August 24, its performance was more easily appreciated when an ordinary Moth casually took the air just after its fast little brother flashed by. The difference was so startling that the speed of the normal Moth looked like a funny crawl. The record flight was made by Captain Broad in the evening, and in a sudden calm following a violent thunderstorm. He had been waiting for a period of calm of not more than twenty minutes for some time, and he had been assured of it by the meteorological experts on the Wed-

nesday evening. He was held up until eight o'clock by the storm, and then the light was very poor and fading fast, but with nothing more than a quick and normal preparation he was soon off, boxed in his cockpit, so that he was hardly visible. Incidentally the ground was quite fit for amphibians. After making a quick circle of the aerodrome Captain Broad came lower, flattened out straight, and flashed past the post at a great speed. In a twinkling he disappeared in the direction of Harrow Hill. He was steering for Reading, there to describe a three-point turn, the corners being indicated by smoke fires. After he had gone, the light dimmed rapidly, and when about a quarter of an hour later one was



["FLIGHT" Photograph

186.5 m.p.h.! With an engine of about 130 h.p., this was the speed over 100 km. attained by Captain Hubert Broad last week on the de Havilland "Tiger Moth." Our photograph shows Broad taking off.



beginning to expect him back it was dark enough to necessitate lighting a flare on the aerodrome to give the pilot a direction. The headlights of waiting cars were also put on.

### The Return

About nineteen minutes after his swift departure, the subdued but penetrating roar of the "Tiger Moth's" engine could be heard, although in the dusk the small machine could not yet be seen. It was not until the metallic roar was heard on the verge of the aerodrome that this flying dart was sighted, flying a fine direct course, then flashing past the post with the faultless speed and rhythm of the start. It climbed out of sight again in the distance, then appeared soon after coming over the trees to land in comparative darkness, which did not, however, hinder a good landing. It was exactly 19 mins. 59½ secs. since it had left on a 100-km. (62.14 miles) flight, which it had covered at the record speed of 186.47 m.p.h., or 300.10 k.p.h. When Captain Broad taxied in and someone "unlocked" him from his minute cockpit, he said that the weather conditions were quite good for his brief but important flight. (This must be the only good weather report received this year). He had flown at a maximum speed all the way, meeting a slight headwind on the outward stage. At Reading he had easily spotted the directing smoke fires, and he was also helped by the Vêry lights that were fired by the thoughtful waiting officials. His maximum altitude was not more than 500 ft. The machine was fitted with the new D.H. engine of 32/130 h.p., specially designed for it by Major Halford. The speed of 186.47

m.p.h. was, perhaps, slightly higher than that expected, but it was by no means anything of a surprise.

### Particulars of the Record

The category in which this record was made was Class III, which is open to single-seater light aeroplanes weighing over 441 lbs., and less than 770 lbs. It was introduced by the Fédération Aéronautique Internationale in May this year, and that body will have to homologate the record first at its next meeting. Captain Broad's attempt was a precedent in this class, and it was observed by officials of the Royal Aero Club, among whom was the Secretary, Commander Perrin. The timekeeper was Mr. A. G. Reynolds. The flight was made at the suggestion of Sir Charles Wakefield.

### An Altitude Record Too!

Since making the speed record, Capt. Broad has created an altitude record in the "Tiger Moth" by reaching 20,000 ft. in 17 mins. This was made on August 29 at Stag Lane. The sealed barograph would not register a greater altitude, and as he had no oxygen apparatus he descended, although the ceiling of the tiny monoplane had by no means been reached. It was, however, sufficient that he had established another record for single-seater light aeroplanes. At a later date he will endeavour to beat this altitude in the same machine, but equipped with oxygen gear and another barograph. He climbed the first 10,000 ft. in 6½ mins., and at 20,000 ft. he was still climbing at the rate of 1,000 ft. per minute.

## LIGHT 'PLANE CLUBS

**London Aeroplane Club**, Stag Lane, Edgware. Sec., H. E. Perrin, 3, Clifford Street, London, W.1.  
**Bristol and Wessex Aeroplane Club**, Yate, Gloucester. Sec., C. S. Clarke, Channel Road, Walton Park, Clevedon, Somerset.  
**Hampshire Aeroplane Club**, Hamble, Southampton. Sec., Maj. Ross White, Hamble, Southampton.  
**Lancashire Aero Club**, Woodford, Lanes. Sec., C. J. Wood, Oakfield, Dukinfield, near Manchester.  
**Midland Aero Club**, Castle Bromwich, Birmingham. Sec., Maj. Gilbert Dennison, 22, Villa Road, Handsworth, Birmingham.

**Newcastle-upon-Tyne Aero Club**, Cramlington, Northumberland. Sec., A. H. Bell, c/o The Club.  
**Norfolk and Norwich Aero Club**, Mousehold, Norwich. Sec., H. O. Bennett, 5, Opie Street, Norwich.  
**The Scottish Aero Club Movement**, 101, St. Vincent Street, Glasgow. Sec.: Harry W. Smith.  
**Suffolk Aeroplane Club**, Ipswich.—Secretary, Courtney N. Prentice, "Hazeldeil," Stowmarket, Suffolk.  
**Yorkshire Aeroplane Club**, Sherburn-in-Elmet, Yorks. Sec., J. F. Barnes, 39, Swan Arcade, Bradford.

### LONDON AEROPLANE CLUB

REPORT for the week ending August 28, 1927.—Flying time, 42 hrs. 45 mins. Dual Instruction, 25 hrs. 5 mins. Solo, 13 hrs. 30 mins. Passenger flights, 4 hrs. 10 mins.

Dual Instruction.—Pilot Instructor: Capt. F. G. M. Sparks. J. H. Veasey, Miss Fletcher, L. Mackie, E. C. Broderick, T. C. Elford, A. S. Richardson, Dr. Cook, G. C. Bonner, G. Black, R. Malcolm, G. W. Hall, J. H. Percy. Pilot Instructor: Capt. S. L. F. St. Barbe. W. L. M. O'Connor, G. W. Hall, P. W. Hoare, R. G. Whalley, Lord Carlow, P. W. R. Whitehead, J. H. Percy, L. W. Gibbens, Miss Wilson, Miss Fletcher, E. K. Broderick, B. B. Tucker, T. E. R. Richards.

Solo Flying.—O. J. Tapper, G. C. Bonner, E. Fresson, A. F. Wallace, C. E. Murrell, Major H. Petre, B. B. Tucker, E. S. Brough, G. Terrell, R. Malcolm, S. O. Bradshaw, R. C. Presland, L. J. C. Mitchell, Major K. M. Beaumont, C. H. Swan, W. Hay, K. V. Wright, G. H. Craig, W. L. Bramson. Passenger flights (with Capt. S. L. F. St. Barbe), Miss Morris; (with O. J. Tapper), P. W. Hoare, H. J. McClure; (with Capt. F. G. M. Sparks), G. H. Black, Miss Taylor; (with Major K. M. Beaumont), Miss Taylor, S. Nesbit, A. Fowler, F. C. Fisher.

Aviator's Certificate.—On Wednesday, August 24, G. C. Bonner passed the flying tests for his certificate.

### BRISTOL & WESSEX AEROPLANE CLUB

REPORT for week ending August 27. Flying time, 12 hrs. 45 mins. Instruction 10 hrs. 40 mins. Soloists, 25 mins. Passengers, 1 hr. 40 mins. Instruction (with Mr. Bartlett), Miss Miles, Messrs. The Hon. H. C. H. Bathurst, P. Bryan, R. A. Hall, Capt. W. T. Hamilton, T. C. Macualy, A. H. Downes-Shaw, M. A. Palmer, N. H. Warren. "B" Pilots: Capt. W. T. Hamilton and Mr. O. P. Jones. Passengers (with Capt. Shaw), Miss Bailey and Mrs. Hambrook. Passengers (with Mr. Bartlett), Messrs. N. W. Birks and A. Thornton. No flying was possible on Monday.

The convenience of air transport was brought home to us last Thursday, when two members of the club committee delayed in London, arrived punctually for a meeting at Filton, thanks to the prompt service of Imperial Airways. They communicated with Croydon and a D.H. 50A was immediately placed at their disposal. Great interest has been provided for the members of the club in watching the test flights at Filton of the Jupiter Fokker flown by Colonel Minchin and Captain Leslie Hamilton, in preparation for their attempt to fly to Ottawa. The club would like to take this opportunity of wishing them every luck in their Transatlantic flight. The club is very pleased to welcome among their new members Mr. O. P. Jones, the well-known Imperial Airways pilot, who has already used the club for a busman's holiday by flying the Moth and the Bristol Brownie.

### HAMPSHIRE AEROPLANE CLUB

REPORT for week ending Sunday, August 28:—Total flying time, 26 hrs. 35 mins.; instruction flying, 12 hrs.; solo flying, 11 hrs. 25 mins.; joy riding, 1 hr. 50 mins.; test flights, 1 hr. 20 mins.

Instruction with Flight-Lieut. Thomson:—Miss Home, 1 hr. 25 mins.; Lieut. Commander Woodhouse, 45 mins.; Commander Hunt, 55 mins.; Messrs. Southcliffe, 45 mins.; Vaughan, 25 mins.; Gripps, 20 mins.; Fortlage, 55 mins.; Dobson, 10 mins.; Boileau, 35 mins.; Brewster, 15 mins.; Wells, 25 mins.; Stanford, 35 mins.; Molony, 45 mins.; Raynes, 10 mins.; Whittle,

40 mins.; Kerry, 10 mins.; Chaffey, 20 mins.; Evans, 25 mins.; Williamson, 20 mins.; Morrison, 20 mins.; Gibbs, 30 mins.; Mellor, 25 mins.; and Crook, 25 mins.

Soloists:—The Hon. H. R. Grosvenor, 40 mins.; Lieut. Graham, R.N., 40 mins.; Flying Officer Southey, 30 mins.; Don J. de la Cierva, 55 mins.; Capt. F. T. Courtney, 1 hr.; Messrs. Wyllie, 35 mins.; Shepherd, 15 mins.; E. T. Symmons, 55 mins.; Pargeter, 45 mins.; Fagan, 1 hr. 15 mins.; Bowen, 2 hrs. 30 mins.; Wells, 5 mins.; Cooper, 45 mins.; Sanders Clark, 25 mins.; Molony, 5 mins.; and Mellor, 5 mins. Joy rides with Flight-Lieut. Thomson, Mrs. Wells, Mrs. Shepherd, Mrs. Gibbs, Messrs. Belleville, Swinburne, Waterman, Walsh and Lovatt. Joy rides with K. P. L. Bowen, Mrs. Crook, Miss Weldon, Messrs. Swinbourne, and Dickson. Capt. F. T. Courtney took up Mr. Hosmar and Mr. E. T. Symmons took Miss Potter. Weather has been very bad from the flying point of view this week; thunderstorms and gales stopped all activities on several days. On Thursday Mr. Molony made a very good first solo flight, and Mr. Cooper successfully carried out his tests for the R.Ae.C. certificate. Members of all grades are reminded that there is a "house warming" on Sunday next, when joy riding will be available on at least three aeroplanes (weather permitting). Tea will be served in the Club House, and it is hoped that members who have not recently visited the Club will take this opportunity of seeing their headquarters in the furnished state.

### LANCASHIRE AERO CLUB

REPORT for week ending August 27, 1927. Total flying time, 47 hrs. 15 mins. Dual, 12 hrs. 10 mins. Solo, 23 hrs. 40 mins. Passenger, 9 hrs. 25 mins. Test, 2 hrs. Dual with Mr. Brown: Messrs. Hollindrake, Browning, Fisher, Riley, Hartley, Fallon, Allot, Parker, Lacayo, Brooking, Tweedale, Harper, Scholfield, Patrieoux, Miss Baerlein.

Solo:—Messrs. Lacayo, Michelson, Rowley, Nelson, Harber, Costa, Chapman, Goodfellow, Twemlow, Hollindrake, Fisher, Shiers, Meads, Dobson, Miss Baerlein.

Joy-rides with Messrs. Brown, Cantrill, Scholes, Goodfellow, Lacayo, Leeming, Costa, Twemlow, and Williams; Mrs. Horsefield, Mrs. Goodfellow, and Mrs. Besso; the Misses Emmett, Turner, Dyson, Dimmock, Wilshaw and Thomas; Messrs. Wycherley, Hartley, Patchett, Horsefield, Howard, Beekin, F. Scholes, Taylor, Fryer, Emmett, Jordan, Mario, Cooper, Mills, Murrell, Hollindrake, Eastwood, Brooking, Bibby, Harber, Meads and Beavin.

Only two machines were in service during the week, the Avian RR and the Moth MQ. Despite very unsettled weather both machines were kept hard at work. Messrs. Hollindrake and Fisher accomplished creditable first solos, while Mr. Harber completed the tests for his R.Ae.C. certificate. The two first soloists celebrated their success by putting in five and three hours solo respectively during the week, and proved very conclusively that Mr. Brown does not turn out "fair-weather" pilots.

### MIDLAND AERO CLUB LIMITED

FLYING hours for week ending August 27, 1927, 10 hrs. 25 mins. Dual instructions with Mr. W. J. McDonough:—N. Crane, G. L. Brinton, J. E. Brewin, G. Robson, R. L. Brinton, R. Cazalet, R. D. Bednell. Solo:—R. Cazalet, R. L. Jackson. Passenger flights:—With Mr. W. J. McDonough, S. Browne; with Mr. E. J. Brighton, L. F. Gundle, J. H. Moore. General report:—Bad weather and only one machine in service have again restricted flying.



## NEWCASTLE-UPON-TYNE AERO CLUB

REPORT for week ending Sunday, August 28, 1927:—Flying time, 16 hrs. Instruction, 4 hrs. 55 mins.; soloists, 11 hrs. 5 mins.

Instruction (with Mr. Parkinson): Messrs. Sadler, P. L. Lawson, Wardill, L. Middleton, Maxwell, De Pledge.

Soloists (under instruction): Mrs. Heslop, Messrs. Wardill and Maxwell.

"A" Pilots: Miss Leathart, Messrs. Heppell, Stawart, Turnbull, C. Thompson, W. Baxter Ellis, Dr. Dixon, A. Bell, Mathews.

Passengers:—With Miss Leathart, Miss Slade; with Mr. W. B. Ellis, Mrs. Ellis; with Mr. Turnbull, Miss Klyver; with Mr. C. Thompson, Mrs. Heslop, Mr. Bulmer; with Mr. Mathews, Mr. Percy; with Mr. A. Bell, Miss Colman, Mr. J. Bell.

Torrential rain, complete with thunder on most days except Friday and Saturday, when gales were experienced. Thursday was fairly good, and Sunday after about 2 p.m. Only one machine was on service during the week, LX being still in the hands of De Havillands' mechanics. On Wednesday a strange Moth "popped" in. This proved to be that owned by the Marquis of Clydesdale, who had taken delivery on the previous day. His passenger was Flying-Officer Hayward Booth. This "X" Moth is a very pretty job, the pale blue and silver decoration of the fuselage, etc., proving very effective. Mr. T. E. M. Wardill carried out the tests for licence "A" on Thursday, putting up a very good performance. This is the seventh licence during August.

## NORFOLK & NORWICH AERO CLUB

TOTAL flying time for week ending August 15, 1927, 17 hrs.; week ending August 22, 1927, 12.30 hrs.; week ending August, 29, 1927, 17 hrs.

During the past week two more members have been launched in their initial solo flight, and in each case a fine performance was put up, both by Mr. H. Birchall and Mr. W. P. Cubitt. In the latter case a really remark-

## D.H. Items

THE De Havilland Company are completely equipping their school with the new X-type Moths, and thereby replacing the early type. The Marquis of Clydesdale has taken delivery of his "Moth." Miss Spooner and Miss O'Brien become private owners of "Moths." Both are members of the London Aeroplane Club. Squadron-Leader Darwin returned from Zurich in the "Moth" which he had been flying there during the air meeting. Lord Ossulston has returned from Holland in his machine, where he has been in camp. Lord Douglas Hamilton is taking a refresher course at the D.H. School. Mr. F. L. Mill is doing likewise before taking his "Moth" to New Zealand. Mr. Downe-Shaw, Chairman of the Bristol Club, has ordered a "Moth." Mr. D. Kittel sold his G-EBMU, and is now having an X-type, G-EBTD.

## A "Flying" Dip

MR. A. C. M. JACKAMAN, a private owner of Slough, created considerable interest recently by getting an early

able exhibition was given, especially on the part of an "Ab Initio" pupil, as, in these days it is very rarely the case that one finds a born pilot who indulges in advanced aerobatics on a first solo flight, we heartily congratulate Mr. Cubitt on his performance, and trust it will not be long before he makes his debut as a representative of the club at race meetings.

Dual instruction with Mr. Lines:—E. Scott, W. Cubitt, T. Whitlock, A. Cooper, A. Marshall, R. Potter, V. Harrison, H. Burchall. Solo flying:—F. Gough, C. C. White, H. Pank, H. Burchell, W. Cubitt, W. Ramsay, R. Moore.

THE club has now purchased a second machine, and it is hoped delivery will be effected during the ensuing week, when no doubt further activity will be evident. On Thursday next the club are holding a civic reception, the Lord Mayor, the Sheriff, Aldermen and Councillors having been invited to attend. Further reports of the meeting will duly appear.

## YORKSHIRE AEROPLANE CLUB

REPORT for week ending August 27, 1927:—Flying time, 14 hrs. 15 mins. Instruction, 5 hrs. 30 mins.; soloists, 6 hrs.; cross-country, 2 hrs. 45 mins. Instruction (with Mr. Beck):—General Atcherley, Miss Woodhead, Miss Watson, Messrs. Brown, Crouther, Fitton, Bailey, Lister, Batecock, Capt. Milburn. Soloists under instruction:—Miss Woodhead, Capt. Milburn. "A" licence pilots:—Miss Woodhead, Messrs. Wilson, Dawson, Thomson, Brackenbury. Passengers with Mr. Beck:—Miss Rhodes, Miss Crawford, and Mr. Metcalf.

"LS," feeling jealous of "NN's" fortnight's leave in town, decided on a visit to De Havillands at Stag Lane, so, taking advantage of the quagmire that should be an aerodrome, remained on the deck from the start of the take-off to the end—in an adjacent field. On Wednesday "NN's" leave expired, so she returned to Sherburn behaving like a perfect little lady, and infinitely better for her sojourn in town.

morning dip in the sea at Littlehampton, 50 miles distant, and getting back again to Slough in time for breakfast. He flew his "Moth," G-EBRT, and was accompanied by his brother. He took his ticket on his own machine at the London Aeroplane Club, and although having only flown solo for less than five hours, he set off for Paris, landing at Lympne on the way. On his return a day or two later, in the evening, he hoped to reach Lympne before dark, but a strong head wind was encountered and he was forced to alight on the French coast, making a perfect landing in the dark.

## Many Happy Returns to "L.A.C."

THE London Aeroplane Club is two years old. During its two years of activity it has put in just over 2,901 hours flying. The second year (ending July, 1927) has shown a considerable increase in the number of hours flown as compared with the first year, viz., 1926, 1,153 hrs. 15 mins.; 1927, 1,747 hrs. 50 mins. It is worthy of note that 79 of



SO SIMPLE: This group clearly illustrates the natural adaptability of the light aeroplane for casual landings away from any aerodromes. Senor Don Juan de la Cierva flew this Moth from Hamble and landed on the sands outside the house, at the Isle of Wight, of Mr. Wallace Barr, who has kindly sent us these pictures. The machine was easily wheeled up to the house, and simply parked amongst the cars and boats.

its members have held Air Ministry licences, and some 20 aeroplanes are privately owned by its members! Well done, London!

### Seaside Aerodromes

THE Skegness Urban District Council are to be congratulated on their foresight in considering the provision of an aerodrome in the vicinity of the town in the preparation of their town-planning scheme. The selection of Skegness as a turning point in the race for the King's Cup this year evidently brought home to the council the possibilities of visitors arriving by air, and they approached the Royal Aero. Club to assist them in selecting a suitable site. An expert aviator has visited Skegness, and a suitable site has been selected. It is hoped that other towns will follow this excellent example.

### Light 'Plane Accident

WHILST flying a light aeroplane over Stanmore, Middlesex, Mr. S. Pritchard-Barratt, of Cotton House, near Salisbury, crashed in the grounds of the residence of Major Sir Maurice FitzGerald, Bt. He was severely injured about the head, and his wife, who was his passenger, had a leg broken. The machine fell from a height of about 90 ft.

### Continental Tour

MR. IVOR McCURE, who learned to fly as a member of the London Aeroplane Club, visited the following places on his recent Continental air tour with Mr. St. Barbe:—Stag Lane, Lympne, Le Bourget, Tours, Bordeaux, Biarritz, Miranda da Ebro (no aerodrome), Burgos, Pau, Toulouse, Nimes, Montelimar, Lyons, Turin, Verona, Udine, Lubiana (formerly Laibach), Klagenfurt, Vienna and Buda Pest.

### Famous Pilot's Fine Flight

MR. BERT HINKLER, the famous test pilot of the Avro Company, made a fine non-stop flight in his "Avian" from London to Riga on August 27. Leaving Croydon at 5.27 a.m. he arrived at Riga in Latvia at 4.12 p.m., having covered about 1,200 miles in 10½ hours at the average speed of well over 100 m.p.h. He used 40 gallons of petrol at a consumption rate of one gallon to 30 miles. His "Avian" is fitted with the 30-80 h.p. Cirrus.

It is by far the longest non-stop flight ever accomplished by a light aeroplane. Mr. Hinkler has gone to Riga on behalf of Wm. Beardmore's, Ltd. He passed over Zeebrugge, met fog over Germany, and ran into a storm in the Gulf of Danzig. The extra petrol was carried in the passengers' cockpit. The cost of this long flight was only about £2. He will return by air in the same way.

### Aerodromes of England

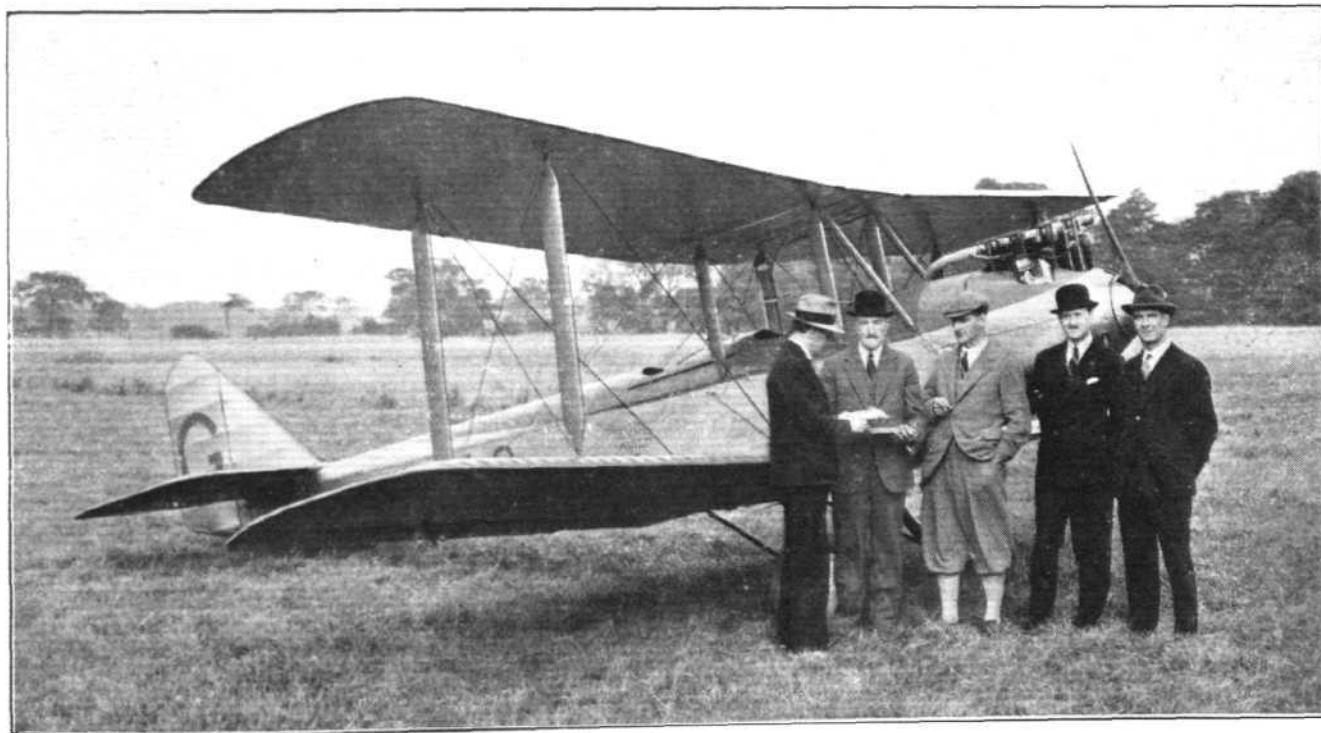
AMONGST the additions that should be made to our map of the aerodromes of England is the aerodrome of S. E. Saunders, the flying-boat constructors, which is at West Cowes, Isle of Wight, and called the Wight Aerodrome. It has been in their possession for two and a-half years, and is fully licensed. Amongst additional landing fields there is the Knavesmire Race Course, at York, which has often been used for landing purposes, and also for night-flying stunts. The question of getting permission to land from the Corporation occurs in this instance. At Harrogate there is the Stray, which has been used for the King's Cup race. There is a notice on part of it stating that it is set aside for aviation. There are cattle on it in the summer, and it is open to the public, but a landing is nearly always possible. In the Upper Wharf Valley there is a field on the right bank of the river between the villages of Kilnsey and Conistone. The upper end of it, near Kilnsey, is the smoothest. There are undulations in the narrow part, which should be avoided. Petrol is obtainable from the village. This is about the only reasonably safe landing ground for many miles in this district, which is very hilly. Other fields along the river look inviting, but are not suitable. Concerning Haslemere, which we mentioned in our last issue, *The Times* Estate Market column states that a lot of 60 acres abutting on Weydown Common carries with it a yearly income of 30s., enjoyed by Sir John Leigh, M.P., who has entered into a temporary agreement with the Air Ministry to allow a space for the name "Haslemere" to be formed on the surface of the ground in large letters in white chalk, for the benefit of pilots trying to locate Haslemere in the course of their flight.

### Lieut. Richardson Returns

THIS naval officer, who is attached to the Fleet Air Arm and has been spending his summer leave touring to Malta in his "Moth," has now returned. He arrived at Stag Lane from Le Touquet on August 26. He reached Dijon from Lyons on August 24, having been delayed by bad weather, and arrived at Le Touquet on August 25.

### German Moths

THE Moth is to be manufactured in Germany by the Raab Katzenstein Company, of Kassel, who have secured the manufacturing rights. This is the first licence to manufacture British aircraft in Germany which has been granted since the war, the De Havilland Company states. It is expected that quite a considerable number of Moths will be turned out, for private flying is expected to make great strides in Germany now. The 30/80 h.p. Cirrus engines will still be made here by A.D.C. Aircraft, Ltd., but later on they, too, may be constructed in Germany.

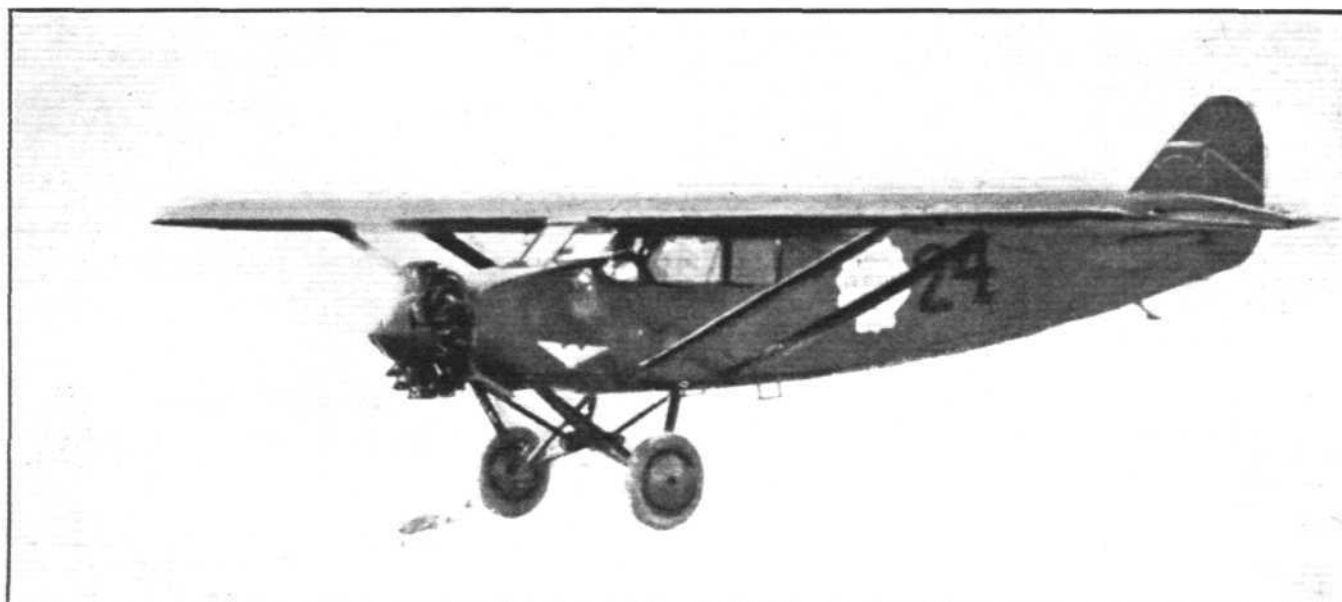


AVRO "AVIAN" FOR SOUTH AFRICA: The machine has been presented to the S.A. Aero Club by the directors of the "Shell" Company. In the photographs are:—From left to right, Mr. R. H. Dobson, Avro works manager; Mr. J. S. Cartwright, South African manager of the "Shell" Company; Capt. "Jerry" Shaw, Mr. Hill, and Mr. Sharp, all of the "Shell" Company.

# THE FORD RELIABILITY AIR TOUR

As promised in a previous issue of *FLIGHT*, we now give some further details of that very interesting and useful American aeroplane competition known as the Ford Reliability Air Tour. This competition, which was originated in 1925 by Edsel B. Ford, who also put up a trophy for the event, is entirely an efficiency and a reliability tour over a distance of

a little more than 4,000 miles, and extending over a period of 16 days. The route covered included the following daily stages:—Detroit-Buffalo; Buffalo-Geneva-Schenectady; Schenectady-Boston; Boston-New York; New York-Philadelphia-Baltimore; Baltimore-Pittsburg; Pittsburg-Cleveland; Cleveland-Kalamazoo-Dayton; Dayton-Columbus



**THE FORD RELIABILITY TOUR :** The winning Stinson Monoplane (Wright J-5 engine), which, piloted by Eddie Stinson, obtained 9,853.7 points out of a possible 10,165.



**THE FORD RELIABILITY TOUR :** The Hamilton metal monoplane which was second, piloted by R. G. Page. It also is fitted with a Wright J-5 engine.

## FORD RELIABILITY TOUR RESULT.

Position.	Machine and Engine.	Pilot.	Max. Speed. m.p.h.	Load lb.	Possible Score.	Actual Score.	Per cent. of Poss. Score.
1	Stinson monoplane (Wright J-5) .. ..	E. A. Stinson .. ..	124.3	1,500	10,165	9,853.7	97
2	Hamilton monoplane (Wright J-5) .. ..	R. G. Page .. ..	112.3	1,200	9,405	7,863.5	83.6
3	Mercury Jr. biplane (Wright C-6) .. ..	H. G. Mummert .. ..	122.8	700	8,215	7,807	95.4
4	Waco-10 biplane (Wright J-5) .. ..	J. P. Wood .. ..	119.3	600	6,900	6,857	97.8
5	Stinson Detroit biplane (Wright J-5) .. ..	L. Flo .. ..	116.7	1,000	6,520	6,386	97.8
6	Waco-10 biplane (Wright J-5) .. ..	J. P. Riddle .. ..	115.6	656	6,075	5,685.5	95.2
7	Ryan Brougham monoplane (Wright J-5) .. ..	F. M. Hawks .. ..	124.1	1,000	6,207	5,688	91.7
8	Waco-10 biplane (Wright J-5) .. ..	C. W. Meyers .. ..	111.3	450	5,732	5,623.9	93.7
9	Buhl Airedan biplane (Wright J-5) .. ..	L. Meister .. ..	115	1,000	6,817	5,375	78
10	Pittsford Mailwing (Wright J-5) .. ..	H. A. Elliott .. ..	127.7	570	4,935	4,666.3	94.6
11	Waco biplane (Wright E-4) .. ..	E. W. Cleveland .. ..	120.3	650	4,030	3,725	99.3
—	Ford Transport monoplane (3 Wright J-5) .. ..	Dean Mulford .. ..	112	1,500	8,085	7,609	94.3
—	Eaglerock biplane No. 3 (Wright J-5) .. ..	C. P. Clevenger .. ..	130.2	500	5,767		Not placed.
—	Eaglerock biplane No. 4 (Curtiss OX) .. ..	P. R. Braniff .. ..	93.1	400	3,537		Retired.





**THE FORD RELIABILITY TOUR :** The Mercury Jr. biplane (Wright C-6 engine), piloted by H. G. Mummert, was placed third.

Cincinnati ; Cincinnati-Louisville ; Louisville-Memphis ; Memphis-Pine Bluff-Dallas ; Dallas-Oklahoma-Tulsa ; Tulsa-Wichita-Ohama ; Ohama-Moline-Hammond ; Hammond-Grand Rapids-Detroit.

This year's formula on which the competitors were placed was a simple and interesting one, viz.: Load  $\times$  maximum speed  $\div$  50  $\div$  "unstuck" (take-off) time  $\div$  pull-up time  $\times$  engine capacity (cub. ins.) = figure of merit.

Previous to the start of the contest competing machines carried out the landing, take-off and speed tests in order to obtain their respective "merit factors." Then, in the actual tour, each competitor was credited with his maximum speed for each leg, provided he maintained an average of at least 85 per cent. of that speed. If, however, his average speed over any leg fell below the 85 per cent. he was penalised accordingly. Thus it will be seen that once the "Figure of Merit" for each machine was obtained its final score was established and remained in the hands of fate—for no further advantage could be obtained by maintaining a greater average speed than the given 85 per cent. This is where

reliability came in—the "figure of merit" deciding efficiency.

The tour started on June 27, when 14 machines set out from Detroit at one minute intervals. The finish of the contest, on July 12, was a spectacular one, for not only was a gale, accompanied by rain, in progress—which threatened to upset many of the competitors' scores at the last minute—but 12 out of the 14 starters arrived safely home to good time. Only one competitor fell out of the contest, while the second, although he completed the course, was so delayed by engine trouble that he was not placed. A third machine, the Ford Transport, piloted by Dean Mulford, obtained fourth position according to score, but was a non-contestant for prize awards.

Practically all the competitors completed the various "legs" with almost monotonous regularity, and "incidents" during the tour were not very conspicuous. Eddie Stinson, the winner, who was well ahead throughout, nearly lost his position on the last day owing to a broken landing gear. By strenuous efforts—in which his rivals assisted—the damage was repaired so as to reach Detroit on time.

### Australian Aerial Services' Third Year

THREE years' flying without accident have, up to July last, been completed by Australian Aerial Services, Ltd. During this time the organisation for handling mails, passengers and freight has grown considerably. Airports numbered six at the inception of the services in June, 1924 ; today there are 20 airports along the company's routes at which machines will land to set down or pick up passengers. The fleet has grown from 7 aircraft valued at £13,600 in 1924, to 10 aircraft valued at £34,000 today. Since its inception the company's machines have flown 428,783 miles (equal to 17 times round the world at the equator), while the company has the proud distinction of being the only aerial service in Australia which has never had a fatal accident to either passengers or staff. The average speed maintained throughout the services (including all stops) is 66 m.p.h., and arrivals at terminals within 30 minutes of schedule time are approximately 90 per cent.

At the present time an extensive aerial tour to investigate the possibilities of Central Australia is being undertaken by a party led by Mr. W. Oliver, a pastoralist, who has chartered the "Satin Bird," the largest aeroplane in Australia. Whilst in the service of the company, Chief Pilot F. S. Briggs and Pilot S. E. Sutcliffe have each flown over 120,000 miles without accident.

### Height Record

THE French airman, M. Callize, reached an altitude of 41,000 ft. on August 30 over the Buc aerodrome in France. He flew a Spad-Bleriot of 450 h.p. and landed three hours later at Le Bourget. This constitutes a new world's record for altitude. Callize nearly fainted at the apex of his climb. He has previously made two records in this class.

### So Soon !

THE Norwich Aero Club had their "Moth" crashed by a member on August 30 at Mousehold aerodrome. He was not injured, but the machine was badly damaged.

### A Long-distance Commercial Flight

A SERIOUS outbreak of cholera in South Persia recently gave rise to an interesting example of true commercial aviation over a long distance. The Persian Government instructed its Minister in Berlin to purchase supplies of serum for inoculation of the population on a large scale, with a view to making a determined attack on the epidemic. The total weight of serum amounted to 10 cwts., and arrangements were made with the Junkers Company to transport this consignment by aeroplane. The load was carried by a Junkers W.33 L machine with Junkers L. 5 engine piloted by Herr Harder, leaving Dessau 3.35 p.m. on August 11 and arriving at Teheran at 10.5 a.m. on August 16, the total distance being nearly 2,500 miles. The daily route taken was as follows: Dessau-Gleiwitz (310 miles); Gleiwitz-Lemberg (235 miles); Lemberg-Charkow (558 miles); Charkow-Mineraluy-Woky (496 miles); Mineraluy-Baku (465 miles); Baku-Teheran (372 miles). In addition to the pilot the machine carried a mechanic, and the flight was carried out as an ordinary cargo-carrying job without any special organisation on the route.

### Still in the Game !

THE largest Pulham airship shed is being dismantled and will be re-erected at Cardington to shelter one of the two new ships.

### Parachute Fatality

OBSERVER OFFICER LOTHIAN was fatally injured in an unusual parachute accident at Farnborough on August 30. Flying in a D.H. machine with F./O. Hudson, he crawled along the fuselage to make the drop, and his apparatus became entangled in the tail unit, leaving him dangling in mid-air in a hopeless position. The pilot managed to keep the machine level and eventually landed as lightly as possible. Lothian was found to be unconscious, and died later in hospital.



### Conquered Again

As a part of their flight round the world, the two Americans, Mr. Edward Schlee and Mr. William Brock, crossed the Atlantic from Harbour Grace, Newfoundland, to London in 23 hrs. 19 mins. They arrived at 10.33 a.m. on Sunday, August 28, having covered 2,350 miles in their Stinson monoplane, which is fitted with a Wright "Whirlwind" engine. Their object is to fly round the world in 15 days. The yellow monoplane was sighted over Plymouth about 7 a.m. on Sunday last, but as this was the first land the airmen had seen after a long flight through cloud and mist they had the impression that it was Ireland. They circled for a long time and then flew up the South Devon coast to Seaton, where they dropped messages asking for the name of the town and country. A large Union Jack spread out on the ground immediately answered for the country, but the names scrawled on the sands were apparently not read. But their knowledge was evidently sufficient for them to carry on, and in due course reach Croydon. They were at considerable disadvantage over this country through the inadequacy of their crude maps. There were about 50 people at Croydon to greet them, because, as no news of them had been reported since they were seen at Plymouth, it was thought they might have gone over to the Continent. In mid-Atlantic a storm had raged and the pilot, Mr. Brock, described it as appalling. At times they descended to as low as 200 ft. and as high as 10,000 ft., but at that altitude it was too cold to be comfortable in, and a lower altitude was chosen. Just before sunset over the ocean they ran into cloud, and when dawn arrived cloud and fog still enveloped the course.

Only two ships were sighted during crossing. They thought a light glimpsed in the morning was the Fastnet Light. Mr. Schlee is the President of the Wayco Oil Corporation, and is able to fly a machine. Mr. Brock learnt to fly at the age of 16 years, and has a considerable reputation in America. He has been a U.S. air mail pilot. Continuing their ambitious flight with as little delay as possible, they left Croydon for Munich on August 29 and arrived at 3.59 p.m. Belgrade was reached about noon on August 30.

### Air Minister Returns

SIR SAMUEL HOARE has returned from his air cruise with the latest types of the R.A.F. flying boats. He left Copenhagen on August 24 in the Blackburn "Iris" and arrived at Esbjerg soon after noon. The "Iris" took off again about an hour later and reached Felixstowe at 5.30 p.m. via Heligoland. The weather had been rather rough during the whole of the Air Minister's tour, and the flight from Oslo to Copenhagen, a distance of about 300 miles, was carried out in the teeth of a heavy gale. He covered 1,400 miles by air all told. The "Iris" is again joining the other boats to complete the programme in the Baltic cruise, which will embrace Danzig, Helsingfors, Stockholm, Copenhagen and then Felixstowe via Helder.

### Director of Civil Aviation in Germany

SIR SEFTON BRANCKER has recently inspected German aerodromes and aircraft factories and is very enthusiastic about air progress in the country. He said that the Germans had organised civil aviation with great courage and had not failed to spend money when it was necessary. Now the whole nation is patriotically interested in flying. The Dornier works at Friedrichshafen are constructing fine machines. At Dessau Sir Sefton interviewed the German pilots who are attempting the Atlantic and saw their machines, which, he thought, should get through. He was pleased with the co-operation in civil aviation between England and Germany.

### Newspapers by Air

CAPTAIN STACK, A.F.C., has been delivering the *Daily Mail* to Belgium with remarkable regularity. A fast motor-car has conveyed the papers to Lympne in the early hours of the morning, and from there Capt. Stack has flown them across to Ostend, arriving punctually at 6.20 a.m., in spite of fog,

sea mists and storms. On many occasions he has been forced to fly across the Channel as low as 10 ft.

### Mr. Levine's Latest!

WHILST Mr. Levine of Atlantic fame is interested in aviation we can always expect to be startled by his adventures. He accomplished the extraordinary feat of flying his "Columbia" monoplane from Paris to Croydon unaided, on August 29, although he is not a trained pilot. He made Le Bourget gasp by unexpectedly taking off and he made Croydon gasp by landing safely after veering to the edge of disaster again and again. The ambulance awaited him in vain. An eyewitness at Croydon said that he stalled at a low altitude but managed to survive it, missed the observation tower by a few feet, touched the ground once but shot up again! One of the Surrey Service pilots took off then and acted as a guide for him. Finally he made a good landing and stepped out of his machine as cool as ice! After leaving Le Bourget a few machines chased him but he shook them off. His French pilot, M. Drouhin, is very annoyed with Mr. Levine and so are French aviation circles generally. As soon as weather permits the "Columbia" will attempt the Atlantic flight, piloted by Capt. Hinchliffe, the Imperial Airways pilot, with Mr. Levine as passenger. Apparently the difficulties with the French pilot were over the language problem.

### Canada's Attempt Fails

CAPT. TULLY and Lieut. Medcalf started their Atlantic flight on August 29, at 6.48 a.m., but were compelled to return after four hours' flying owing to rain and fog over Eastern Ontario. There is the possibility of a race between them and Mr. C. A. Schiller and Mr. P. Wood, who are starting from Windsor, Ontario, for Windsor, England.

### In the Throes of Adjournment

ONE of our own efforts to make the westward crossing of the Atlantic is still held up—mostly through bad weather. Capt. Courtney has made repeated endeavours to get away, but the last time the "Whale" would not lift, although it was actually carrying less load than on previous occasions. Col. Minchin and Mr. Leslie Hamilton have had to make a modification to their tail unit before the Air Ministry would grant an airworthy certificate. They flew their Fokker monoplane from Bristol to Upavon, Wiltshire, on August 26. They started for Canada on August 31, Princess Lowenstein-Wertheim accompanying them as a passenger. The Princess is said to have a financial interest in the flight.

### Long-distance Flight Mystery

AN American airman, Paul Redfern, who left Brunswick, Georgia, alone for a 4,600-mile flight to Brazil, is missing, and it is feared that he is lost in the ocean. He started on August 25 in a Stinson monoplane and was sighted 300 miles east of the Bahamas by a steamer the same afternoon.

### Air Freight in Germany

AN agreement has been drawn up between Lufthansa (the German "Imperial Airways") and the German State Railways. From October 1, anyone sending freight or parcels in Germany may designate the route desired, whether entirely or partly by air, for the air lines and railways will work in union.

### Lord Apsley a Trustee of National Fund

CAPT. THE RT. HON. LORD APSLEY, D.S.O., M.C., M.P. (Cons., Southampton), has become a Trustee of the National Fund for the Promotion of Aeronautics in addition to Lord Ossulston, Sq.-Ldr. the Rt. Hon. F. E. Guest, C.B.E., D.S.O., M.P., and Mr. Lendrum.

### Air Union Make Reduction

THE Air Union is making a reduction of 20 per cent. on all their passenger fares for members of the American Legion in Europe for the French Convention. Legionnaires will be required to produce their special passports at the aerodrome of embarkation as a means of identification. The single fares on the London-Paris air line will be:—"Earlybird" service, £4. 4s.; 11.15 a.m. service and 3 p.m. restaurant service, £5. On the 3 p.m. service afternoon tea is served free of charge in the restaurant machines.



# THE ROYAL AIR FORCE

## ROYAL AIR FORCE INTELLIGENCE

**Appointments.**—The following appointments in the Royal Air Force are notified:—

### General Duties Branch

**Squadron Leaders:** F. E. Hellyer, O.B.E., to H.Q., Inland Area, Stanmore; 1.9.27. L. J. MacLean, M.C., to Home Aircraft Depot, Henlow; 8.8.27. T. F. W. Thompson, D.F.C., to R.A.F. Depot, Uxbridge; 3.9.27.

**Flight Lieutenants:** E. M. Drummond, to Elec. and Wireless Sch., Flowerdown; 15.8.27. C. R. Davidson, M.C., to H.Q., India; 8.7.27. R. L. Crofton, M.B.E., A.F.C., to No. 17 Sqdn., Upavon; 1.9.27. C. D. Adams to H.Q., Halton; 12.9.27. A. MacGregor, D.F.C., to Staff College, Andover; 29.7.27. A. H. Orlebar, A.F.C., to Air Ministry, Directorate of Organisation and Staff Duties; 3.9.27. C. B. S. Spackman, D.F.C., to H.Q., Halton; 5.9.27. A. M. Wray, M.C., D.F.C., A.F.C., to Armament and Gunnery School, Eastchurch; 25.8.27. C. E. H. Allen, D.F.C., to Home Aircraft Depot, Henlow; 5.9.27. H. A. L. Pattison, to R.A.F. Depot, Uxbridge; 8.8.27. G. G. H. Du Boulay, to Sch. of Tech. Training (Men), Manston; 31.8.27.

### Medical Branch

**Flight Lieutenant** D. Loughlin to Sch. of Tech. Training (Men), Manston; 26.8.27.

**Flying Officers** J. E. Foran, M.B., to H.Q., Egypt, 12.8.27. J. McCarren, to Research Lab. and Med. Officers' School of Instruction on appointment to a short service commn., 17.8.27.

**Flying Officers (Dental):** H. J. Eagleson, to Station H.Q., Andover, 29.8.27. A. P. McClare and S. McC. Craig, to R.A.F. Depot, Uxbridge, on appointment to temp. commissions, 18.7.27.

### NAVAL APPOINTMENTS

The following appointments were made by the Admiralty on August 23: **Lieutenants (Flight-Lieutenants, R.A.F.):** C. J. N. Atkinson, to *Argus*, and for full flying duties in 404b Flight, in command; A. M. Kimmins, to *Furious*, and for full flying duties in 461 Flight, in command (Sept. 1); E. W. Anstice, to *Vivid*, addl., for *Courageous*, and for full flying duties in 464 Flight, in command (Sept. 1), and to *Courageous*, and for full flying duties in 464 Flight, in command (on commg.); S. Richardson, to *Vivid*, addl., for *Courageous*, and for full flying duties in 466 Flight, in command (on expiration of foreign service leave), and to *Courageous*, and for full flying duties in 466 Flight, in command (on commg.); and E. J. S. Knocker, to *Furious*, and for full flying duties in 420 Flight, in command (Sept. 1).

**Lieutenants (Flying Officers, R.A.F.):** I. R. Grant and J. H. Burroughs, to *Furious*, and for full flying duties in 405 Flight (on expiration of foreign service leave); E. B. Canduff, to *Vivid*, addl., for *Courageous*, and for full flying duties in 406 Flight (on expiration of foreign service leave), and to *Courageous*, and for full flying duties in 406 Flight (on commg.); A. M.

Rundle and H. Ditton, to *Vivid*, addl., for *Courageous*, and for full flying duties in 407 Flight, and to *Courageous*, and for full flying duties in 407 Flight (on commg.); T. O. Bulteel, to *Tamar*, and for full flying duties in 401 Flight (Sept. 1); G. H. Birley, to *Vivid*, addl., for *Courageous*, and for full flying duties in 407 Flight (Sept. 1), and to *Courageous*, and for full flying duties in 407 Flight (on commg.); J. F. M. Robertson and A. M. Pilling, to *Hermes*, and for full flying duties in 403 Flight (Sept. 1); P. B. McDonald, to *Vivid*, addl., for *Courageous*, and for full flying duties in 407 Flight (Sept. 1), and to *Courageous*, and for full flying duties in 407 Flight (on commg.); R. J. Berry, R. G. Poole and M. Cursham, to *Vivid*, addl., for *Courageous*, and for full flying duties in 463 Flight (Sept. 1), and to *Courageous*, and for full flying duties in 463 Flight (on commg.); R. H. S. Rodger, to *Vivid*, addl., for *Courageous*, and for full flying duties in 464 Flight (Sept. 1); and to *Courageous*, and for full flying duties in 464 Flight (on commg.); J. Nicholson, to *Vivid*, addl., for *Courageous*, and for full flying duties in 463 Flight (on expiration of foreign service leave); and to *Courageous*, and for full flying duties in 463 Flight (on commg.); G. R. M. Robertson, to *Vivid*, addl., for *Courageous*, and for full flying duties in 445 Flight (Sept. 1); and to *Courageous*, and for full flying duties in 445 Flight (on commg.); F. H. G. Oliphant, to *Vindictive*, and for full flying duties in 444 Flight (Sept. 1); F. G. Wynne and N. R. Courthope-Munroe, to *Vivid*, addl., for *Courageous*, and for full flying duties in 445 Flight (on expiration of foreign service leave); and to *Courageous*, and for full flying duties in 445 Flight (on commg.); C. N. Lentaigne, to *Argus*, and for full flying duties in 441 Flight (Sept. 1); C. R. V. Pugh, to *Vivid*, addl., for *Courageous*, and for full flying duties in 446 Flight (on expiration of foreign service leave); and to *Courageous*, and for full flying duties in 446 Flight (on commg.); E. E. B. Blackwell, to *Victory*, to be lent to R.A.F. Flight (on completion of foreign service leave); R. H. Barrett, to *Furious*, and for full flying duties in 406 Flight, temp. (Sept. 1); and to *Hermes*, and for full flying duties in 403 Flight (on re-commg.); C. A. R. Gibb, to *Eagle*, and for full flying duties in 460 Flight (from date of sailing); C. W. Phillips, to *Furious*, and for full flying duties in 461 Flight (Sept. 1); J. E. Fenton, to *Furious*, and for full flying duties in 443a Flight, temp. (Sept. 1); and to *Hermes*, and for full flying duties in 440 Flight (on re-commg.); D. W. MacKendrick, to *Argus*, and for full flying duties in 441 Flight (from date of sailing); J. W. Hale, to *Tamar*, and for full flying duties in 442 Flight (from date of sailing); R. P. Garnett, to *Furious*, and for full flying duties in 443a Flight (Sept. 1); G. M. Pares, to *Vindictive*, and for full flying duties in 444 Flight (from date of sailing); A. M. McKillop and H. A. Traill, to *Vivid*, addl., for *Courageous*, and for full flying duties in 445 and 446 Flights respectively (Sept. 1); and to *Courageous*, and for full flying duties in 445 and 446 Flights (on commg.); F. W. N. Bassett, to *Argus*, and for full flying duties in 422 Flight (from date of sailing); and J. H. M. Wood, to *Tamar*, and for full flying duties in 443b Flight (Sept. 1).

### The Royal Air Force Memorial Fund

THE usual meeting of the Grants Sub-Committee was held on August 25. Lieut-Comdr. H. E. Perrin\* was in the chair, and the other members of the committee present were:—Mr. W. S. Field and Sqdr.-Ldr. Douglas Iron, O.B.E. The committee considered in all 10 cases, and made grants to the amount of £271 10s. The next meeting was fixed for September 8, at 2.30 p.m.

### Royal Air Force Flying Accidents

THE Air Ministry regrets to announce that as the result of an accident at Upavon to a "Woodcock" machine of No. 3 (Fighter) Squadron, at approximately 10.45 a.m. on August 26, 1927, Pilot Officer Harold Cyprian Kelly, the pilot and sole occupant of the aircraft, was killed. As the result of an accident at Heliopolis Aerodrome, Egypt, to a D.G.9A machine of No. 45 (Bombing) Squadron on August 24, 1927, 314826 Flight Sergeant Gilbert Smith was seriously injured, and died in hospital on August 26, 1927. 335007 Leading Aircraftsman (Acting Sergeant) George Bruce Gillie, the pilot of the aircraft, was seriously injured.

### Royal Air Force Cadet College

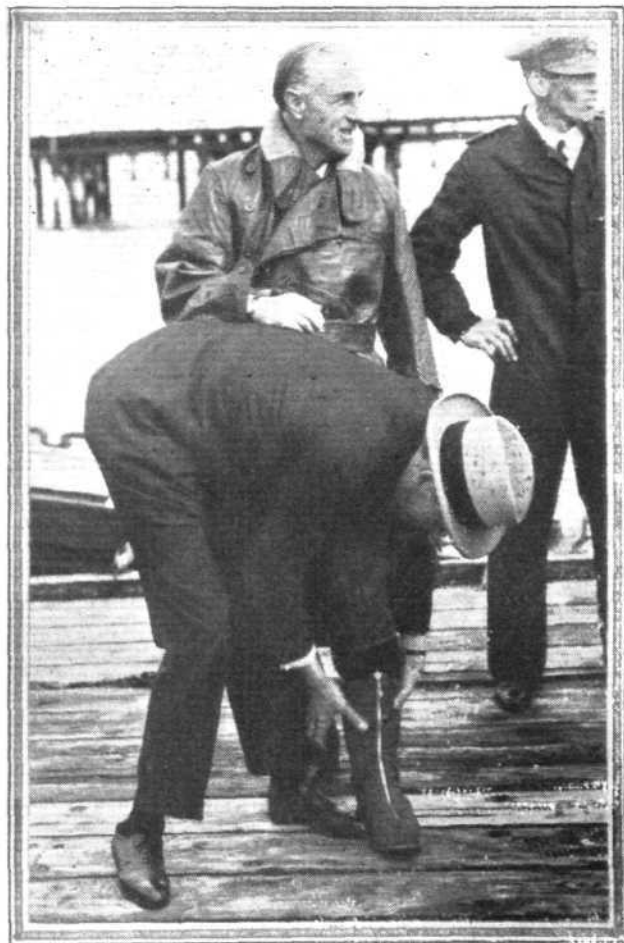
THE following flight cadets successfully completed, on July 29, 1927, their course of training at the Royal Air Force Cadet College. Bartlett, R. J. O.; Berkeley, A. P. F.M.; Boyce, C. D. C.; Butler, W. D.; Cooke, de L.; Gillan, J. W. (winner of R. M. Groves Memorial Prize); Grannum, C. W.; Grierson, C. McK. (winner of Air Ministry prize for Aeronautical Science); Loudon, J. A. H. (winner of Air Ministry prize for Humanistic subjects); Moore, L. P.; Moore, W. M.; O'Grady, C. C.; Philpott, M. G.; Sandeman, A. W.; Stowell, R. A. T.; Turner, C. H.; Watson, E. J.; Worthington, F. R. (winner of Abdy Gerrard Fellowes Memorial Prize and Sword of Honour).

### State Gliding School

IN Italy a gliding school under the direct concern of the State has just been opened at Pavullo, near Modena. On twelve gliders 35 Fascist students are receiving instruction. The gliders were constructed from German models.

### Some Order!

ACCORDING to a *Daily Mail* correspondent, Japan has ordered 300 Ryan monoplanes, similar to the type used by Col. Lindbergh on his historic flight.



["FLIGHT" Photograph]  
Sir Samuel Hoare prepared for flight to Copenhagen in "Iris II." The Air Minister has now concluded his tour,



## Copenhagen Aero Show (Concluded from p. 607)

An interesting feature of this machine is that it is developed from the commercial version merely by substituting a different fuselage centre portion. A nation equipped with a number of commercial machines, and having a corresponding number of bomber sections in stock, would thus be able to convert its air fleet into a bombing fleet in probably a few days.

The main characteristics of the Junkers R.42 are: Length overall, 15.3 m. (50 ft. 2 ins.); span, 29.9 m. (98 ft.); weight empty, 3,784 kg. (8,325 lbs.); useful load, 2,716 kg. (5,975 lbs.); total loaded weight, 6,500 kg. (14,300 lbs.). The top speed at ground level is claimed to be 176 km./h. (109 m.p.h.), and the climb to 1,000 m. (3,300 ft.) takes 7 minutes.

The firm A.B. Aerotransport exhibits maps, photographs, and other propaganda material, while the Royal Swedish Aero Club has devoted its stand to a memorial exhibition of photographs illustrating the Andre attempt to reach the North Pole in a balloon.

## AMERICA'S BIG FLYING MEET

WHAT will probably be the biggest aviation rally ever held is to take place this month in America, centring mainly at Spokane, Wash. From September 19 to 24 three National air events will be held, comprising (1) the National Air Derby from New York to Spokane; (2) the Pacific Coast Air Derby from San Francisco to Spokane; (3) the National Air Races at Spokane. Some \$28,250 goes in prizes in the New York-Spokane Derby, and \$5,000 in the San Francisco-Spokane Derby. Both these events are for civilians only with open or enclosed standard stock machines primarily designed for passenger commercial service, and are divided into two classes—(A) In which engine displacement is over 510 cub. ins. and not exceeding 800 cub. ins.; (B) In which engine horsepower must not exceed 100. In the National Air Races—which will be held on September 23 and 24—about a dozen events are included in the programme. For these there are several permanent trophies, which have been awarded annually at previous "Nationals." Some of the races will be open to civilians only, and some will be "Military" events, and they will include the following:—Civilian events: "Free-for-all"; Light Commercial Speed and Efficiency race for "Aviation Town and Country Club of Detroit Trophy"; Air Transport Speed and Efficiency race for "Detroit News Air Transport Trophy"; Light Aeroplane race; Sport Plane race; etc. Military-National Guard race; Observation Plane race for "Liberty Engine Builders' Trophy"; Races for large capacity machines; Race for pursuit type machines. In addition to various trophies, over \$14,000 will be awarded in prizes in the National Air Races. It is anticipated that the number of aircraft participating in these three big events will be a record one.

## PERSONALS

### Married

ROBERT HENRY BURROWS, A.F.C., M.A., only son of Harry Burrows, of "Homewood," Stevenage, Herts (formerly of Finchley, N.3), was married on August 16, at St. George's, Hanover Square, to MIRA GWENNITH, only child of WALTER B. TURNOCK, O.B.E., and Mrs. Turnock, of "Danygraig," Baglan, Port Talbot, Glam.

The marriage took place, on August 17, 1927, at the Parish Church, Aldeburgh, of CAMPBELL MACKENZIE-RICHARDS, R.A.F., to MIRABEL, daughter of LIEUT.-COLONEL ERNEST C. COBBOLD and Mrs. Cobbold, of West Hill, Aldeburgh, Suffolk.

### To be Married

The engagement is announced between JOSEPH ALAN CROOK (late Maj., M.C., R.F.C. and R.A.F.), son of the late J. B. Howard Crook and Mrs. Howard Crook, of 36, Alexandra Court, Queen's Gate, S.W.7, and MARGARET JEANIE RUSSELL, elder daughter of Mr. and Mrs. GARNETT, of Backwell, Somerset.

A marriage has been arranged between Capt. EDWARD GRAHAME JOHNSTONE, D.S.C., late R.N.A.S., and R.A.F., elder son of Lady Stevenson, 22, Old Queen Street, Westminster, and DORIS CLARE, elder daughter of Mr. and Mrs. Victor Zinkeisen, of 8, St. Andrew's Place, Regent's Park.

The engagement is announced between FLIGHT-LIEUT. R. L. RAGG, R.A.F., son of the late R. S. Ragg, B.A. (of Reigate), and Mrs. Ragg, of Swanage, and MARGARET, daughter of the late G. W. MOIR and Mrs. Moir, 119e, Cromwell Road, S.W.7.

The marriage arranged between Mr. CHARLES F. ROUFELL, R.A.F., and Miss DOROTHY U. KIRKE will take place at St. Mary's Church, Shalford, near Guildford, on September 29.

The engagement is announced of FLIGHT-LIEUT. ARTHUR PENROSE MARTYN SANDERS, R.A.F., only son of the Rev. and Mrs. H. Martyn Sanders, of the Vicarage, East Twickenham, and EDITH MARY OLIVIER, elder daughter of Mr. and Mrs. HERBERT A. OLIVIER, of 7, Airlie Gardens, W.8.

The engagement is announced of Flight-Lieut. RONALD SCOTT SUGDEN, A.F.C., son of Dr. and Mrs. Sugden, of Aintree, Liverpool, and Miss HELEN MARY BRAIN, daughter of Mr. and Mrs. W. H. BRAIN, of Cwrt-yr-Ala, near Cardiff.

### Death

OLIVER ST. LEGER CAMPION, M.R.C.S., L.R.C.P., late Capt., R.A.M.C., and Flight-Lieut., R.A.F., who died suddenly from heart failure, at Cairo, Egypt, on August 23, was the third son of Charles A. B. Campion, of Rocklands, Beckenham, Kent. His age was 35.

## SIDEWINDS

THE partnership is announced of Mr. Arthur Hugh Stanley, chartered patent agent, late sole partner in the firm of Stanley, Popplewell and Co., chartered patent agents and consulting engineers, of Jessel Chambers, 88-90, Chancery Lane, London, W.C.2, and Mr. E. Lloyd Francis, A.M.I.Mech.E., registered patent agent. The newly-constituted firm will practise at the above address under the style of Stanley, Popplewell and Francis.

WE have been asked by Messrs. Burch's Naval and R.A.F. Tailors, of 401, Strand, London, W.C.2, to convey, through the medium of our journal, to the officers of the various R.A.F. squadrons a personal expression of their thanks for the generous support and kind recommendations they have accorded them in the past. We ourselves have no hesitation in recommending them. They are old-established tailors, with a wealth of tradition behind them, and by their production in uniforms they have achieved an unrivalled reputation, and we believe that any officers requiring an outfit would materially benefit by consulting them before going elsewhere.

IN connection with his record flight Capt. Broad has sent the following messages to Titanine-Emallite, Ltd., and H. M. Hobson, Ltd., respectively: "The clean finish of the 32-130 H.P. 'Tiger Moth' on which I secured the World's Light Aeroplane Speed Record at 186.47 m.p.h. over hundred kilometres closed circuit last evening is due in no small measure to the use of Titanine."

"The Claudel-Hobson carburettor fitted to the 32-130 h.p. 'Tiger Moth' on which I secured the World's Light Aeroplane Speed Record over hundred kilometres closed circuit at 186.47 m.p.h. gave entirely satisfactory service—the carburation right up to full throttle was perfect."

## PUBLICATIONS RECEIVED

*With the Duke and Duchess of York in Australasia.* Crossley Motors, Ltd., Gorton, Manchester.

*Taschenbuch der Luftflotten. Pocket Almanac of Aeronautics, 1927.* H. Bechhold Verlagsbuchhandlung, Nidda-strasse 81-83, Frankfurt a.M. Price RM.12.

## AERONAUTICAL PATENT SPECIFICATIONS

(Abbreviations: Cyl. = cylinder; i.c. = internal combustion; m. = motor. The numbers in brackets are those under which the Specifications will be printed and abridged, etc.)

### APPLIED FOR IN 1926

Published September 1, 1927

- 10,672. H. G. RITCHIE. Rotary engines. (275,295.)
- 11,348. H. A. COSTERTON. Rotary engines with moving abutments. (275,302.)
- 11,607. H. R. RICHARDO. Fluid-pressure engines. (275,312.)
- 11,776. P. M. STAUNTON. Propulsion systems and propellers. (275,330.)
- 20,592. A. TAMMEO. Construction of the planes of aircraft. (257,280.)
- 20,940. F. GADDIS. Aircraft. (275,423.)

### APPLIED FOR IN 1927

Published September 1, 1927

- 2,298. H. JUNKERS. Fuel-pumps for i.c. engines. (266,688.)
- 4,483. W. R. and H. C. VANE and P. E. SUTTON. I.c. engine with oscillating cylinders. (275,497.)
- 9,562. R. FOREST. Rotary motors. (269,186.)

## FLIGHT,

*The Aircraft Engineer and Airships*

36, GREAT QUEEN STREET, KINGSWAY, W.C.2.

Telephone: Gerrard 1828.

Telegraphic address: Truditur, Westcent, London.

## "FLIGHT" SUBSCRIPTION RATES

UNITED KINGDOM				ABROAD*			
	s.	d.			s.	d.	
3 Months, Post Free..	7	7		3 Months, Post Free..	8	3	
6 "	15	2		6 "	16	6	
12 "	30	4		12 "	33	0	

\* Foreign subscriptions must be remitted in British currency.

Cheques and Post Office Orders should be made payable to the Proprietors of "FLIGHT," 36, Great Queen Street, Kingsway, W.C.2, and crossed Westminster Bank.

Should any difficulty be experienced in procuring "FLIGHT" from local news-vendors, intending readers can obtain each issue direct from the Publishing Office, by forwarding remittance as above.